

Unlocking Brownfields

KEYS TO COMMUNITY REVITALIZATION



About the National Association of Local Government Environmental Professionals

Founded in 1993 by a group of local officials, NALGEP is a non-profit national organization representing local government professionals responsible for environmental compliance and the development and implementation of local environmental policy. NALGEP's membership includes more than 200 local government entities located throughout America. NALGEP brings together local environmental officials to network and share information on innovative practices, conduct environmental policy projects, promote environmental training and education, and communicate views on national environmental issues. NALGEP is conducting projects on a wide range of environmental issues including brownfields, smart growth, USTfields, clean air, transportation innovation, and clean water. NALGEP is managed by Spiegel & McDiarmid, a national law firm located in Washington, DC. Please visit NALGEP's website at www.nalgep.org.

About the Northeast-Midwest Institute

The Northeast-Midwest Institute is a Washington-based, private, non-profit, and non-partisan research organization dedicated to economic vitality, environmental quality, and regional equity for Northeast and Midwest States. Formed in the mid-1970's, it fulfills its mission by conducting research and analysis, developing and advancing innovative policy, providing evaluation of key federal and state programs, disseminating information, and highlighting sound economic and environmental technologies and practices. The Institute is unique among policy centers because of its ties to Congress through the Northeast-Midwest Congressional and Senate coalitions. Co-chaired by Senators Susan Collins (R-ME) and Jack Reed (D-RI), and Representatives Marty Meehan (D-MA) and Jack Quinn (R-NY), the bipartisan coalitions advance federal policies that enhance the region's economy and environment. Please visit NE-MW's website at www.nemw.org.

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National Association of Local Government Environmental Professionals
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The publication of this report marks the culmination of a decade of involvement in brownfields. Being a part of this growing national movement has been one of the most exciting and challenging endeavors of our careers thus far.

Indeed, the brownfields movement and brownfields success are really about people — people with ideas, people with vision, people with energy and enthusiasm, people with dedication, people not satisfied with the status quo of blighted communities, people willing to venture outside the box and reach out to other partners. On behalf of NALGEP and the Northeast-Midwest Institute (NE-MW), we wish to acknowledge some of these innovative people with whom we have had the pleasure to work during the past decade.

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Executive Summary

Unlocking Brownfields Potential Across America

- ▶ In Bridgeport, Connecticut an old, abandoned industrial eyesore served as the City's main gateway and landmark for years. *Now*, an attractive new sports and entertainment area greets residents and visitors as they enter the City.
- ▶ In the picturesque but struggling logging town of Eagle Point, Oregon, contamination at an old gas station on a key downtown lot impeded community revitalization efforts. *Now*, the gas station site has been cleaned up, clearing the way for several new small businesses to open in downtown Eagle Point.
- ▶ The small city of Charles Town, West Virginia is blighted by acres of idle properties, and rapid growth and development is covering the farm fields and scenic vistas on the edge of town. *Now*, community leaders have established a brownfields strategy designed to redevelop the town center and slow sprawling development. A new business recently created 50 new jobs in Charles Town's brownfield area, and investors have begun buying properties and cleaning up the entire neighborhood.
- ▶ The east side of Houston, Texas was marred by 25 acres of vacant lots and dilapidated buildings that were magnets for criminal activity. *Now*, the Houston Astros' new ballpark sits on the former lots and brings millions of visitors to the City's revitalized east side.
- ▶ In the poor, minority community of East Palo Alto, California, 130 acres of prime real estate on the San Francisco Bay sat unused, because a legacy of pollution from chemical manufacturing thwarted redevelopment. *Now*, East Palo Alto has begun to implement its vision for revitalization that will include upgraded infrastructure, new housing, commercial and office development, and a waterfront park.

Virtually every community in America is plagued by idle properties that lay abandoned for years due to fear of environmental contamination, unknown cleanup costs, and potential legal liability issues. It is estimated that there could be as many as 1 million of these so-called "brownfield" properties nationwide. Brownfields cause blight to neighborhoods, inhibit economic development, threaten public health and the environment, and encourage urban sprawl.

However, as communities across America are showing, these brownfields can also hold the key to environmental health and economic revitalization. Whether it's waterfront redevelopment, affordable housing, retail and commercial reinvestment, or the creation of new parks, localities are using brownfields as a tool to enhance local quality of life and achieve their community revitalization objectives. The results include more environmental cleanup, job creation, new community vitality, and the spark of economic growth.

About This Report

The National Association of Local Government Environmental Professionals (NALGEP) and the Northeast-Midwest Institute (NE-MW) have worked with localities for more than a decade to unlock community revitalization and economic potential at blighted brownfields. We have worked closely with the Brownfields Showcase Communities and other top local brownfields leaders. We have partnered with private developers and lenders, and with state and federal agencies to develop new tools and approaches to promote brownfields reuse.

We have conducted substantial research to identify the key components of successful brownfields projects and programs. We have visited numerous communities and talked with hundreds of local officials to learn firsthand about what works and what does not at the local level. We have organized and participated in dozens of brownfields revitalization workshops and training sessions to share lessons learned and to further develop our knowledge and expertise.

This report represents the culmination of a decade of research and experience focused on brownfields reuse. It includes more than 50 profiles of successful brownfields projects and programs and four comprehensive findings which encompass the evolution of brownfields success in America and the "10 Keys to Brownfields Success." We hope this report will help more communities unlock the potential of brownfields, and open the door to revitalization.

A Decade of Brownfields Progress

The brownfields movement has produced a decade of remarkable progress that has resulted in the cleanup and reuse of thousands of properties, the creation of thousands of jobs, the leveraging of billions of private sector dollars, and the revitalization of hundreds of neighborhoods across America.

Brownfields have come to represent one of the most exciting, and most challenging, environmental and economic development initiatives in the nation, as local communities turn their blighted brownfields back into productive places again.

The brownfields movement began in the early 1990s as local communities began to recognize that the fear and uncertainty associated with potential environmental contamination was seriously undermining efforts to keep urban areas vital. Developers and financial institutions were reluctant to invest their time and money to redevelop brownfield properties. Instead, they were content to focus their resources in so-called "greenfields" where there were no environmental issues to complicate the development process. Michael White, who was then the Mayor of Cleveland, called environmental contamination the number one obstacle facing the development community.

As a result, cities like Chicago and Cleveland began organizing forums to develop new strategies to overcome the barriers to brownfields redevelopment. States like Illinois, Minnesota and New Jersey began to develop state voluntary cleanup programs to encourage private parties to voluntarily step forward to address environmental issues on brownfield properties. The U.S. Environmental Protection Agency (EPA) launched the Brownfields Economic Redevelopment Initiative, which focused on clarifying the liability associated with the cleanup of brownfield properties, and providing funding to create local brownfield pilot programs in communities across the nation. In addition, EPA established the federal brownfields partnership which has leveraged the participation of more than 20 other federal agencies, including the Economic Development Administration (EDA), the Army Corps of Engineers, the Department of Housing and Urban Development (HUD) and others. All of these actions have contributed to a decade of remarkable results:

- Hundreds of communities have established local brownfields programs;
- Forty-nine states now have voluntary cleanup programs and other brownfields incentives on the books;

- ▶ In 2002, President Bush signed the nation's first federal brownfields law — the Brownfields Revitalization Act — which provides further liability protections for innocent landowners and prospective purchasers and a reliable source of funding for environmental assessment and remediation;
- ▶ More than 700 local communities have received brownfields funding from EPA and other federal agencies during the past decade.

Moreover, as the numerous examples in this report demonstrate, these new brownfields programs and partnerships are helping localities redevelop properties and deliver real results to the residents of their communities. For example:

- ▶ EPA reports that its brownfields program has leveraged more than \$6.5 billion in private investment, led to the creation of more than 29,000 jobs and resulted in the assessment of more than 4,800 properties;
- ▶ The Commonwealth of Massachusetts reports that 20,000 sites have been cleaned up, 7,400 jobs have been created, 121 businesses have located on brownfields, and tax revenues have increased by \$796 million due to brownfields revitalization;
- ▶ The City of Chicago has collected \$70 million for its local brownfields program, cleaned and revitalized hundreds of acres of property, created many dozens of jobs, and connected brownfields revitalization to broader issues of smart growth, clean air and clean water, infrastructure, jobs and economic development, and social equity;

These new brownfields programs and partnerships are helping localities redevelop properties and deliver real results to the residents of their communities.

- ▶ Hundreds of non-profit, community-based, and academic organizations have emerged as brownfields organizers, advocates and champions, sparking revitalization in numerous communities and across the nation;
- ▶ The State of Michigan estimates that its brownfields program has created 13,000 new jobs, stimulated \$2.3 billion in private investment, helped 175 businesses locate on recycled land, and led to the development of 1,500 new housing units during the past decade. The state estimates that every dollar of public funds has leveraged \$28 in private brownfields investment.

Localities Foster Brownfields Revitalization

Finding #1

Local governments are uniquely situated to foster brownfields revitalization, and long term brownfields success depends on the ongoing ability of localities to continue to provide leadership and develop new approaches for brownfields reuse.

More specifically:

- Local governments are "on the ground" at brownfields sites, and are best situated to lead and facilitate brownfields efforts in the community.
- Local governments have decades of experience in the cleanup and revitalization of contaminated properties, beginning well before the term "brownfield" was coined. Recognizing this, when EPA launched its Brownfields Action Agenda in the mid-1990s, the Agency focused its resources at the local community level.
- Local governments are best able to integrate the economic development, community revitalization, and public health and environmental goals of the local citizenry, and focus them toward a common revitalization goal.
- Local governments often have established relationships and shared objectives for brownfields revitalization with the local business community, industry, non-profit organizations, and other key stakeholders.
- Local governments can be an important conduit for local, state and federal funding and other resources for brownfields assessment, cleanup, and revitalization. Although some contaminated sites are being redeveloped by the private sector alone, at many other sites the public sector must play a crucial "jump-start" role in removing brownfields barriers, attracting resources, and facilitating re-use plans.
- Many local governments own brownfields and have strong incentives and abilities to revitalize these properties.
- Many localities are seeking brownfields property for their own reuse projects, including public facilities, parks, and recreational areas. Localities also often act as "brownfields brokers," by obtaining brownfield properties, cleaning them up, assembling parcels, improving infrastructure, and then flipping the properties to the private sector for redevelopment projects.
- Local governments are best able to provide public outreach and education on, and foster citizen participation in, brownfields efforts.

Public Investment is Critical For Brownfields Reuse

Finding #2

Public investments in environmental assessment and cleanup, site preparation, and infrastructure are critical to the successful redevelopment of many brownfield properties.

While many brownfield projects are successfully completed using only private financing, there are also numerous projects that would not succeed without public assistance. There are many sites where the pre-development costs, such as cleanup and site preparation, are much higher than the value of the properties themselves. These "upside down" brownfields with depressed real estate values tend to be in areas that have suffered from years of neglect and economic disinvestments. The impacts of the blight tend to fall disproportionately on neighborhoods with low and moderate income families. Without public investment, these sites would continue to remain idle and blight neighborhoods.

However, as the profiles in this report demonstrate, there are countless examples where a modest public investment leveraged the private sector resources required to complete successful reuse projects. Many of these brownfields projects have served as effective catalysts for broader revitalization, creating new jobs and restoring the tax base for communities.

During the past decade, brownfields stakeholders have developed a wide range of public financing tools, including grants, loans, revolving loan funds, and tax incentives to stimulate reuse. Numerous public agency partners have emerged at the local, state, and federal levels, to provide assistance and resources to redevelopment projects. This report includes information and provides examples of how communities have put these public financing tools to work to leverage economic revitalization.

10 Keys to Brownfields Success

Finding #3

Our research has identified 10 keys to brownfields success that can empower communities to spark increased revitalization.

Discussed in greater detail later in the report, the following "10 Keys to Brownfields Success," can help localities unlock community and economic opportunity with an environmental key:

- 1 **Field a Strong Brownfields Team with Leadership From the Top** — Brownfields success is about people. Localities most successful in brownfields revitalization have set up brownfields teams that include prominent local leaders, a brownfields staff champion, a cross-sector team of public and private supporters, and a citizens stakeholder advisory group.
- 2 **Connect Brownfields with Community Revitalization Priorities** — Communities will succeed in brownfields revitalization when they consider these properties as community and economic opportunities that happen to have an environmental challenge, and connect brownfields initiatives to their broader community vision and revitalization priorities.

Without public investment, these sites would continue to remain idle and blight neighborhoods.

- 3 **Begin with the End in Mind** — Brownfields projects have much greater success when the local community first identifies the potential reuse of the idled, contaminated property.
- 4 **Involve Citizens from the Start** — Community involvement and consensus is one of the most important ingredients for a successful brownfield project.
- 5 **Engage the Private Sector & Reduce Its Risk** — Most brownfields properties will be revitalized by the private sector, with the support of private finance. Thus, local communities must understand private sector needs, help reduce private sector risk, and facilitate private sector strategies.
- 6 **Make Cleanups Work for You** — Brownfields success ultimately involves overcoming environmental cleanup challenges at contaminated sites. Communities and brownfields redevelopers are using new strategies and new technologies to avoid making environmental costs the brownfields deal-breaker.
- 7 **Leverage the Funding** — Funding is essential for turning a community's brownfields vision into real results. However, because there is usually no single source of money to complete the many facets of a brownfields project, the most successful communities will help leverage a variety of public and private sources for brownfields revitalization.

- 8 **Join Forces with Your State** — Now more than ever, the success of local brownfields initiatives will depend upon the strength and capacity of state brownfields programs, and the ability of localities to partner with their states.
- 9 **Partner with Key Federal Agencies** — Brownfields revitalization is enhanced by the strong partnership that emerged between local communities and the "federal family" of key agencies that targeted resources to the brownfields problem. These agencies continue to be a valuable resource for local communities, and a key to local brownfields success is to take advantage of these federal resources and assistance.
- 10 **Nothing Succeeds Like Success** — To achieve its brownfields vision, a local community must make small steps toward progress, to give confidence to the community and brownfields stakeholders.

More Doors to Brownfields Opportunity Still to Unlock

Finding #4

Despite the decade of progress in brownfields and the ever-increasing number of success stories, significant barriers to brownfields revitalization remain.

Several barriers are described below, along with recommendations for how to turn these challenges into new brownfields opportunities.

- Communities continue to grapple with the challenges of redeveloping difficult, often moth-balled sites, such as old landfills, salvage yards, ports, rail yards, and mine scarred lands. EPA should continue to work with stakeholders to develop new partnerships and approaches to address the reuse of these types of properties.
- Many property owners are still reluctant to conduct site investigations or enter into transactions due to fear of environmental liability. More tools and incentives are needed to encourage these property owners to assess and address the environmental concerns at their sites.
- There is still inadequate funding for brownfield projects, especially funding for cleanup and other pre-development costs. Despite the well-documented benefits, the Administration and Congress have failed to fully fund the programs authorized by the new brownfields law, and several states have cut brownfields funding due to tight budgets. New sources of public funding should be developed in light of the dramatic economic benefits from brownfields reuse.
- A lack of local brownfields expertise and capacity still exists in many communities across the country—especially in small and rural communities. Additional training and outreach is needed to educate these communities about the benefits of brownfields reuse and the tools to facilitate revitalization.
- Significant lack of clarity remains concerning the liability for local governments that acquire brownfields properties for the purpose of promoting revitalization. EPA should work with localities to clarify that local governments will not be liable under Superfund for the "involuntary acquisition" and ownership of contaminated brownfield properties through eminent domain or condemnation.
- Regulatory inconsistencies still inhibit the reuse of RCRA, Superfund and federal facility sites. EPA should continue to work with stakeholders to overcome these obstacles and promote the reuse of these sites.
- There are growing examples of the environmentally responsible reuse of brownfields via green building, low impact development practices, smart growth, preservation of parks and open

space, transit-oriented development, and pollution prevention. More outreach is needed to educate stakeholders about the opportunities to promote these sustainable practices.

- ▶ A number of barriers still impede the effectiveness of federal brownfields policies and programs. For example:
 - Under the new federal brownfields law, EPA cannot provide funding for the assessment and cleanup of sites acquired prior to January 2002, and grant recipients cannot use EPA funds to pay for reasonable administrative costs. Lawmakers should address these barriers to facilitate the redevelopment of more brownfield properties.
 - The current HUD Brownfields Economic Development Initiative (BEDI) program requires that recipients of BEDI grants also use Section 108 loan guarantees for their Brownfield redevelopment projects. This provision makes it very difficult for many communities, especially small and rural communities, to access the BEDI program. De-linking the BEDI grants from Section 108 will go a long way towards making this valuable brownfield revitalization tool more accessible to small cities and other communities.
 - HUD is grappling with the impacts of contamination and potential liability on the Department's use of resources in communities. HUD housing programs are generally not available for use on sites where the Department or its public housing authorities

A lack of local brownfields expertise and capacity still exists in many communities across the country — especially in small and rural communities.

retain site control. Since a wide range of privately-led housing projects have been successfully built on brownfields, HUD should update its policies.

- The Small Business Administration (SBA) typically will not provide financial assistance for projects where environmental contamination is a concern. This policy should be reformed since a number of small businesses are looking to locate on brownfields and because new federal and state laws make it straightforward to address these issues.
 - Since 2002, the Administration and Congress have failed to provide funding for the Department of Interior's Urban Parks and Recreation Recovery Program (UPARR), which provides critical resources for the rehabilitation of urban parks and recreation facilities. Full funding should be restored to ensure that quality of life is protected in distressed communities.
 - The Economic Development Administration (EDA) last year eliminated brownfields as an official agency priority, and EDA has reduced funding for brownfields projects in recent years. Congress and EDA should make brownfields redevelopment a priority and increase funding for reuse projects able to take advantage of brownfield locations.
 - Current law makes it difficult for the Army Corps of Engineers to use its authorities to support brownfields revitalization on America's waterfronts. Congress should enact any of several promising legislative approaches to support these important community and water resource priorities.
- ▶ Despite the tremendous progress of state voluntary cleanup programs, there are opportunities to improve state brownfields programs by: (1) providing sufficient staff to

ensure timely approvals for voluntary cleanups; (2) increasing funding for site assessment, cleanup and predevelopment costs; (3) better leveraging funding from state underground storage tank programs with other sources of brownfields funding, to promote the cleanup and reuse of sites contaminated with petroleum; and (4) obtaining greater involvement in brownfields projects from state economic development, transportation, infrastructure, land use, and housing agencies.

The Brownfield Communities Network: Building on the Decade of Progress

NALGEP and NE-MW launched the Brownfield Communities Network in 2004 to continue to build connections among community leaders promoting the reuse of contaminated property. The Network is demonstrating that individuals can be catalysts for change in their communities by developing a vision for revitalization and utilizing brownfield tools to make the vision a reality.

Guided by an Advisory Council of the nation's local brownfield leaders, the Network is working to harness the substantial knowledge, expertise, and experience that the nation's leading brownfields communities developed during the past decade and export it to their peers.

The Brownfield Communities Network promotes the cleanup and reuse of brownfields by:

- ▶ providing a forum for communities across the nation to overcome brownfield barriers and share lessons learned regarding tools, strategies, resources and partnerships;
- ▶ providing technical assistance and training to local communities and other stakeholders;
- ▶ showcasing examples of successful local brownfields programs and projects;
- ▶ developing new approaches to overcome obstacles to brownfields reuse; and
- ▶ communicating the views of local communities on state and national brownfields issues.

At the first-ever Brownfield Communities Summit, held in Washington DC in the summer of 2004, the Network developed an "Action Agenda" (see box) designed to advance efforts on key issues that will enhance localities' abilities to overcome the barriers to brownfields revitalization.

For more information on the Brownfield Communities Network, visit www.nalgep.org

Brownfield Communities Network: Action Agenda

Increase Brownfields Funding

- ▶ **Leverage additional funding**, especially for cleanup and pre-development activities at brownfield properties.
- ▶ **Public Works for Brownfields**— Promote the investment of public works resources at brownfields, including transportation, water / sewer / stormwater infrastructure, water resources development funding, and community development resources.
- ▶ **Local Brownfields Financing Innovation**— Educate local communities and others about the most effective local brownfields financing strategies.

Implementation of the New Brownfields Law

- ▶ **All Appropriate Inquiry Implementation**— Enhance localities' understanding and ensure successful implementation of the AAI regulation.
- ▶ **Local Government Brownfields Acquisition**— Work with EPA to develop updated policies clarifying how local governments are protected from Superfund liability in their acquisition of brownfields sites.

Overcoming the Toughest Brownfield Barriers


- ▶ **Mothballed and Low-Use Properties**— Develop new strategies to encourage reluctant property owners to clean up and/or sell their mothballed and under-utilized properties.
- ▶ **Small and Rural Communities**— Conduct outreach and develop strategies to address the unique brownfield needs of small and rural communities.
- ▶ **Railfields**— Promote strategies to overcome barriers to reusing underutilized properties owned by the railroads.
- ▶ **Recycling Gas Stations and Other Small Sites**— Develop new partnerships and strategies to reuse abandoned gas stations and other smaller brownfield properties.
- ▶ **Reuse RCRA and Other Contaminated Properties**— Work with EPA to overcome barriers to the revitalization of RCRA, Superfund, federal facilities, and underground storage tank sites.

Sustainable Brownfield Reuse

- ▶ **Sustainable Brownfields Reuse**— Promote environmentally responsible reuse of brownfields via green building, low impact development practices, smart growth strategies, preservation of parks and open space, transit-oriented development, and pollution prevention.
- ▶ **Waterfront Revitalization**— Work with EPA, NOAA, the Army Corps of Engineers and other agencies to promote new strategies for waterfront brownfields redevelopment that protect the environment and create economic opportunities.



Brownfields Background



This section of the report provides more background to help you understand what brownfields are (and are not), why they are important, and how new resources are emerging to unlock their potential.

What Are Brownfields?

Brownfields come in all shapes and sizes, from closed steel mills or vast watersheds contaminated by mining contamination, to vacant corner gas stations, abandoned grocery stores, or old town dumps. What all brownfields have in common is that real or perceived contamination can cause fear in those who may otherwise be willing to put these sites back into use—fear of costs, complications, delay, or even legal liability associated with the pollution. These perceptions can discourage the private sector from buying these sites, block local governments from getting involved at these sites, raise concerns among lenders and financiers, and otherwise chill activity at brownfields.

Often, a brownfield can blight the neighborhood and lead to other community problems. Aside from the health and environmental risks that may be posed by pollution in the soil, groundwater or surface water, brownfields often are associated with abandoned and unsafe buildings, lost jobs and diminished tax base, decreased property values, vandalism and criminal activity, and other signs of blight. Brownfields are the places left behind, and often forgotten.

According to EPA and the new federal brownfields law (known as the *Small Business Liability Relief and Brownfields Revitalization Act*), brownfields are "**real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.**" In other words, brownfields can be any abandoned, idle, or under-used industrial or commercial facility where reuse is complicated by *real or perceived* environmental contamination. Government estimates for the number of brownfields range from 500,000 to 1 million, including more than 200,000 abandoned gas stations.

Yet, brownfields are not hopeless places—and in fact they are often prime locations for revitalization. Brownfields are often located on favorable real estate, such as waterfronts, central city areas, or places that are nearby to other businesses and resources. Brownfields typically have infrastructure already in place. Further, the redevelopment of brownfield areas often garner the strong support of neighborhood and community leaders, as opposed to the Not-In-My-Back-Yard opposition that can face development projects in greenfield and open space areas. In many communities, if the problem of contamination can be overcome with information, education, resources, and partnerships, these brownfield problems can be turned into revitalization success stories.

Following are a few "Myths and Facts" about brownfields that can help you understand what they are all about:

Common Brownfield Myths and Facts

Myth	Facts
Brownfields are all large, former industrial or manufacturing sites.	While some brownfields are large former industrial sites, the majority of the estimated 500,000 to 1 million brownfields in the United States are small properties like dry cleaners, vacant lots, or gas stations.
A site must actually be contaminated to be considered a brownfield.	The perception that a property may be contaminated can be just as great a barrier to redevelopment as actual contamination. Therefore, sites where contamination is merely perceived, and site conditions are unknown, are still considered brownfields. One third of the brownfield sites that have been assessed with EPA brownfields funding have turned out to be free from significant contamination.
Superfund sites are brownfields, or brownfields are Superfund sites.	Under the statutory definition, brownfields do not include Superfund sites, i.e. sites that are on or have been proposed for listing on EPA's Superfund National Priorities List of severely contaminated sites. Currently, only approximately 1,200 Superfund sites are designated. Brownfields are much less contaminated than Superfund sites, much less expensive to address, much less complicated by regulatory and legal constraints, and much more amenable to voluntary, cooperative approaches.
Brownfields are only an urban problem.	Contaminated properties affect nearly every town, large and small. Small and rural communities are impacted not only by former industrial sites, but also by closed gas stations, dry cleaners, old dumps, contaminated rail yards, mine-scarred lands, agricultural wastes such as pesticides, and many other challenges. Many EPA brownfield grants have been awarded to communities with less than 25,000 people.
Brownfields are an environment-only issue, and an EPA-only problem.	While brownfields by definition involve real or perceived environmental contamination, the solutions to brownfields problems almost always involve much broader issues including economic reuse, neighborhood improvement, infrastructure and transportation capacity, job creation, tax incentives, crime prevention, and many other approaches. Successful brownfield reuse generally occurs when economic and community development issues are addressed along with contamination concerns. The multi-disciplinary nature of brownfields is one reason that more than 20 federal agencies, and a broad range of state, local, private, and non-profit entities are now involved in brownfields revitalization.

Why are Brownfields Important? The Benefits of Brownfields Revitalization

The cleanup and reuse of brownfields provides many environmental, economic, and community benefits. The growing number of success stories from around the country demonstrate that more and more communities are beginning to discover that investment in brownfields programs and projects pays off in many ways. Some of these benefits include:

- ▶ **Protection of Public Health and the Environment:** By encouraging and supporting the reuse of brownfields, communities can facilitate the clean-up of contaminated properties that otherwise would continue to threaten public health and safety.

Example: The Magic Marker site Trenton, New Jersey was used for 40 years by a series of owners who were engaged in the manufacture and storage of lead acid batteries. Contamination left behind was of special concern because the property is surrounded by a densely populated low-income residential community and stands directly opposite an elementary school. The City of Trenton acquired the site, conducted several investigations, and conducted an innovative "phytoremediation" pilot study in 1998 using mustard plants to extract lead and heavy metals from the soil. The EPA used its authority to remove 200 drums of hazardous material and a large underground storage tank. On February 10, 2004, a "concrete-breaking" ceremony launched the final phase of cleanup, preparing the site for 38 new residences expected to be built in 2005.

- ▶ **Location benefits:** Brownfields revitalization can put prime real estate back into productive use, because brownfields are often located in strategic places near waterfronts, railroad and transportation routes, and center city areas.

Example: In Des Moines, Iowa the locality and the private sector are working to revitalize the "Riverpoint West" area, located adjacent to the central business district along the Des Moines River and connected to key roads.

- ▶ **Infrastructure advantages:** Brownfields are places that have already been developed. They typically are served with existing infrastructure, which can be more efficient to upgrade when compared to extending new infrastructure into greenfield areas.

Example: Stamford, Connecticut's brownfields are focused on the south waterfront area along the Long Island Sound, in close proximity to Interstate Route 95, the Amtrak Metro North corridor, a major multi-modal transit station, and major electric, telecommunications, water, and sewer utilities.

- ▶ **Economic/tax base development:** Brownfields cleanup and redevelopment can serve as a catalyst for economic development and expand the jobs and tax base of local governments.

Example: The small and long neglected City of East Palo Alto, California has expanded its overall tax base by ten-fold in the last decade and reduced its dependency on federal grants from 50 percent of its operating budget in 1995 to less than 1 percent today, primarily through the "Gateway 101" redevelopment of a brownfield area into retail, housing, and commercial businesses. East Palo Alto predicts that the redevelopment of the Ravenswood Industrial Area, the community's next target, will create 4,000 new jobs and more than \$1 million per year in new local tax revenues.

- ▶ **Leveraged investments:** Dollars invested in brownfields typically leverage major resources. The International Economic Development Council conducted a 1999 study of brownfields projects, and concluded that for every public dollar invested in brownfields projects, 2.5 dollars in private sector investment are leveraged. Since the launch of the EPA Brownfields program in 1995, the Agency reports that the federal investment of \$700 million in brownfields has leveraged \$6.5 billion in additional cleanup and redevelopment resources.

Example: The American Airlines Center, home to the NBA's Dallas Mavericks and the NHL's Dallas Stars, now stands at the site of a century-old industrial wasteland in the Dallas central business district. After a \$12 million cleanup, the mile-long site now includes 8 million square feet of apartments, office space, stores and entertainment venues. The American Airlines Center has sparked additional mixed-use development nearby and the City estimates that the project has

already created 1,350 jobs. Additional projects are in the works on adjacent properties to build 1,000 units of multi-family housing, 600,000 square feet of retail space, a 400-room hotel, and 900,000 square feet of office space.

- **Job creation:** Brownfields redevelopment can be an excellent tool for job creation and training. Since 1995, more than 29,000 jobs have been leveraged as a result of the EPA investment in brownfields revitalization. Many more jobs have been catalyzed by State brownfields programs. In addition, many local communities have used EPA Brownfields Job Training and Redevelopment grants to train citizens in the waste assessment and remediation fields, creating 1,740 brownfields employment opportunities.

Example: The Jobs for Youth Training Center in Boston, Massachusetts is using EPA funding to provide a 460-hour training course to 60 young workers in topics including Hazardous Materials Handling, Environmental Chemistry, and Applied Mathematics and Computer Skills. These new workers are helping revitalize brownfields in the Boston region.

- **Sprawl deterrent:** Disinvestments in central cities and brownfields can push growth to the edge of the established communities, and can result in sprawling development on the fringe. Concerns over liability, contamination, and clean-up costs at urban brownfields can make them less attractive to build on than greenfields (open space), which in turn contributes to sprawl and the associated transportation and environmental issues. Clearly, reinvestment in brownfields is a linchpin of "smart growth." In 2001, an EPA-sponsored study by the George Washington University, titled "Public Policies and Private Decisions Affecting the Redevelopment of Brownfields: An Analysis of Critical Factors, Relative Weights and Area Differentials," found that 4.5 acres of greenfields are saved for every one acre of brownfields that is redeveloped.

Example: The St. Louis Development Corporation is working with the regional council of governments to create a network of local officials who will better connect open space preservation and brownfields redevelopment. This network is seeking to identify brownfields and open space needs of individual communities and the overall metropolitan region, and evaluating the establishment of a "true cost" development impact fee system and regional transfer of development rights program.

**"4.5 acres of greenfields are saved for every one
acre of brownfields that is redeveloped."**

- **Environmental Justice:** Brownfields are often located in poor, predominantly minority communities. The cleanup of these blighted sites can bring new hope, investment, and vitality to these neighborhoods.

Example: In Chattanooga, Tennessee, 5,300 people live in the Alton Park area, which has a poverty rate of 61 percent, and a median household income of \$12,300. The area's population is 98 percent African American. Chattanooga has launched a brownfields cleanup and revitalization initiative in the 2.7 mile area which has approximately 34 state-designated contaminated sites. The City and its partners have held a land-use planning charrette, targeted brownfields cleanups through the use of a GIS-based system, and established a Master Redevelopment Plan. In 2003-2004, the community began to remove more than 600 abandoned public housing units at the McCallie Homes area that were badly contaminated with lead and foundry sand, to clear the way for new housing and community facilities.

- **Community amenity promotion:** Brownfields revitalization can help localities build on their assets and emphasize the character of the community.

Example: Kansas City, Missouri has established a "Riverfront Heritage Trail" along nine brownfields areas. This nine-mile trail connects Riverfront Park, the River Market, and downtown Kansas City via a series of scenic bicycle and pedestrian paths. The Trail, completed in time for the 200-year anniversary of the visit of explorers Lewis and Clark in summer 2004, should be a major resource for the local tourism economy.

A Federal Brownfields Agenda

The EPA and the federal government have been major catalysts for local brownfields revitalization, and the key federal role in brownfields is expected to continue. In 2002 President Bush signed the *Small Business Liability Relief and Brownfields Revitalization Act* which launched an enhanced federal effort to assist local communities in cleaning up their brownfields. The bill provides significantly more funding for brownfields site assessment and cleanup, liability relief for innocent parties and small businesses, and increased cleanup certainty. A summary of the bill is provided in the box on the right.

Brownfields are one of the EPA's top environmental priorities. The EPA has launched several initiatives to fulfill its mission of empowering states, communities, and other stakeholders in economic development to work together in a timely manner to prevent, assess, safely clean up, and sustainably reuse brownfields. The EPA brownfields program promotes brownfields in four key ways — protecting the environment from brownfields contamination, promoting partnerships for brownfields revitalization, strengthening the marketplace for brownfields redevelopment, and promoting sustainable reuse of brownfields for long-term quality of life.

All of these activities are enhanced by overall "Land Revitalization" and "One Cleanup" initiatives launched by the EPA Office of Solid Waste and Emergency Response in 2003. The Land Revitalization initiative is designed to ensure that communities can go beyond mere cleanup of contaminated properties to their productive reuse. The One Cleanup initiative is meant to apply the successful brownfields approach to other types of contaminated sites, and to harmonize the varying federal requirements and programs that are applicable to these different types of sites, including brownfields, Superfund sites, RCRA sites, petroleum brownfields, and contaminated federal properties.

A cornerstone of the EPA program is its brownfields grant program. This program provides funding to localities for:

- ▶ **Brownfields assessment grants** (typically up to \$200,000) to assess brownfields sites and to support local brownfields programs;
- ▶ **Brownfields Job Training & Redevelopment grants** (up to \$200,000 over two years) to provide training for residents of communities affected by brownfields to facilitate cleanup of brownfields sites and prepare trainees for future employment in the environmental field;
- ▶ **Brownfields Cleanup grants** (up to \$200,000 per brownfield site) provides direct cleanup grant funding to state and local governments and non-profit organizations for site cleanup; and
- ▶ **Brownfields Cleanup Revolving Loan Fund grants** (up to \$1 million for use over five years) to capitalize loan funds to make loans to public and private sector recipients for the environmental cleanup of brownfields. In addition, since 2003, community RLF recipients may use up to 40 percent of these resources to provide direct cleanup subgrants.

Through these programs, the EPA also provides funding for "petroleum brownfields," including abandoned gas stations and "USTfields" affected by underground storage tanks.

2002 Small Business Liability Relief and Brownfields Revitalization Act

On January 11, 2002, President Bush signed bipartisan legislation to help promote the cleanup and redevelopment of brownfields. Key provisions include:

Funding—The act more than doubled authorized funding for assessment and cleanup of brownfield sites to \$250 million a year.*

- ▶ \$150 million to localities, states, and tribes to support site assessment and cleanup
- ▶ \$50 million to address sites contaminated with petroleum
- ▶ \$50 million to establish and enhance state and tribal cleanup programs

Funding Flexibility

- ▶ Authorizes EPA to provide direct grants for brownfields cleanup for the first time
- ▶ Provides funding for the cleanup of corner gas stations and other sites impacted by petroleum
- ▶ Streamlines the requirements of EPA's revolving loan funds
- ▶ Allows funding to be used for environmental insurance premiums

Liability Relief for Innocent Parties—The act provides liability protection to innocent landowners, prospective purchasers, and contiguous property owners.

Increased Certainty On Cleanups

- ▶ Bars federal Superfund enforcement action for sites in state cleanup programs
- ▶ Provides federal "safety net" role where: requested by state; interstate contamination; imminent and substantial endangerment to public health or the environment; or new information shows cleanup is no longer protective

Superfund Liability Relief For Small Business—The act protects small businesses, non-profits, and households that contributed small amounts of waste from Superfund liability.

* To date, Congress has not appropriated more than \$171 million in any year.

Twenty-five percent of the EPA funding provided for brownfields assessment and cleanup is directed toward these petroleum brownfields. In addition, the EPA Office of Underground Storage Tanks (OUST) is providing resources and fostering partnerships for the recycling of America's abandoned gas stations. OUST has also formed agreements with organizations like Habitat for Humanity and the Wildlife Habitat Council to promote the reuse of petroleum brownfields for housing, parks, and wildlife habitat areas. OUST is likewise launching an effort to promote the reuse of abandoned gas stations for small retail outlets like coffee shops, copy stores and convenience markets.

The EPA, however, is not alone in this brownfields effort. More than 20 federal agencies link their resources and assistance to local brownfields revitalization, and several agencies

have made substantial investments in brownfields. These key agencies include the Department of Housing and Urban Development, the Economic Development Administration and the National Oceanographic and Atmospheric Administration at the Department of Commerce, the Department of Transportation, and the U.S. Army Corps of Engineers. See the "Strong Local-Federal Partnerships" section and the "Partner with Key Federal Agencies" section of this report for more information on the federal brownfields resources available from these agencies.

The federal interagency brownfields partnership has been bolstered by a multi-year effort called the "Brownfields Showcase Communities" initiative. The Showcase initiative chose 28 pilot communities from across the country and provided them with federal resources, federal agency personnel and technical assistance, and a commitment to bring a variety of federal departments together to address local brownfields challenges. The Showcase initiative created new models of local-federal brownfields partnerships, leveraged millions of dollars in resources for local brownfields, brought the "federal family" of agencies together for local assistance, and paved the way for a number of new, innovative federal initiatives for brownfields.



Building a Strong Brownfields Program

LOCAL

Innovative Local Brownfields Programs

Across America, communities of all sizes and locations are cleaning up and redeveloping brownfield properties. The following are local brownfields programs that have employed particularly innovative approaches. These programs provide useful models for other communities to learn from and adopt to their own circumstances.

CHICAGO, IL: City Demonstrates National Brownfields Leadership

Under the leadership of Mayor Richard Daley, the City of Chicago has established one of the nation's most successful brownfields redevelopment programs. Chicago established its brownfields initiative in 1993, built on a strategy of linking environmental restoration with industrial real estate development to create jobs and generate tax revenue. By early 1999, Chicago had cleaned up or overseen the remediation of 333 brownfield properties covering more than 50 acres. By 2004, the City had leveraged more than \$70 million for its brownfields program from federal and other sources.

Brownfields Forum Provides Leadership

The City owes much of its success to the work of the Brownfields Forum, convened in 1994 with the support of the John D. and Catherine T. MacArthur Foundation. More than 100 business leaders, manufacturers, environmentalists, bankers, regulators, civic organization leaders, and city officials participated in the forum's meetings to develop recommendations and an action plan for brownfields redevelopment. In 1995, the Forum published its findings, identifying more than 60 barriers to brownfield site reuse. The Brownfields Forum officially agreed to 63 recommendations for overcoming these barriers and formed nine project teams to implement them.

Chicago officials acted on many of the forum's recommendations, including enacting a property tax incentive, encouraging local banks to develop and use a model lending package, and implementing land acquisition tools for brownfield sites. The City also created an interdepartmental team of project managers from the Chicago Departments of Environment, Planning and Development, and Law, which built solid working relationships among themselves and with the Illinois Environmental Protection Agency (IEPA), HUD, and the EPA Region 5 staff. The City also created special designations such as model industrial corridors, manufacturing districts, and tax increment financing (TIF) districts to spark reuse in targeted areas.

Chicago's Team Approach

A multidisciplinary team manages Chicago's brownfields process, beginning with an evaluation of sites for inclusion based on site access and control, estimated cleanup costs, and real estate marketability. The team includes representatives from the:

- ▶ Office of the Mayor to provide overall guidance and coordination;
- ▶ Office of Budget and Management to assist with financial management, oversight of spending, and regulatory compliance;

- ▶ Chicago Department of Environment to contribute technical expertise;
- ▶ Department of Planning and Development to market sites to potential end users and manage various financial and economic development tools to support redevelopment;
- ▶ Department of Law, which can sue polluters for cost recovery, offer real estate transaction support, and negotiate redevelopment agreements with prospective owners, as well as administer the environmental and garbage liens that address public nuisances associated with many brownfield sites.

In addition, the Chicago Department of Buildings operates two programs that can support brownfield redevelopment. The Abandoned Property Program enables developers to acquire abandoned buildings with real estate taxes and water bills in arrears for at least two years, and either restore or demolish the structures. The Adjacent Neighborhoods Land Acquisition Program helps residents and business owners acquire property adjoining their own for \$300. These lots must have a City of Chicago lien on them in order for the City to foreclose and turn the property over.

The Chicago Department of Environment performs preliminary reviews of sites for the brownfield program, using records indicating the presence of underground storage tanks, environmental complaints, and reviews of previous uses or current conditions such as evidence of illegal dumping. Based on this review, the brownfields team determines whether or not to proceed with a Phase I environmental assessment, followed by a more detailed Phase II assessment. These assessments are conducted in accordance with the requirements of the State's voluntary cleanup program, so that action at the site later can receive the benefit of a State no-further-remediation letter. Then the department proposes a cleanup strategy and prepares cost estimates for cleanup.

Chicago established its brownfields initiative in 1993, built on a strategy of linking environmental restoration with industrial real estate development to create jobs and generate tax revenue.

The department refines a site cleanup strategy based on the Phase II assessment, determining the cleanup standards that apply to the site using the State's Tiered Approach to Corrective Action Objectives to select standards that are appropriate for the planned future use of the site. The City also works with end users to determine if site improvements, such as buildings and parking lots, can serve as engineered barriers to reduce the amount of contaminated material that must be removed for off-site disposal.

As part of its initial brownfields effort, the City targeted four key sites for large industrial park projects, located in North Lawndale, West Pullman, and West Town (including the Kinzie Industrial Corridor). The sites were selected for their redevelopment potential, large size, and proximity to existing highway and rail lines.

City Partners with Community Groups

Chicago's brownfields staff have strengthened their program through connections to a variety of public and private organizations, including the Metropolitan Planning Council, the Northern Illinois Planning Commission, and many local organizations.

In particular, Chicago benefits from partnerships with community-based development groups throughout the City to build capacity for overcoming brownfields issues and spur neighborhood redevelopment. They help provide community residents and organizations with information on site identification, environmental regulations, and community readiness.

Chicago's Innovative Financing

Chicago has used a host of innovative funding sources to support its brownfield redevelopment projects. The City Treasurer's Office has dedicated \$10 million for deposit in banks that lend money to small businesses for preventing pollution, cleaning up sites, or complying with environmental regulations. Partner banks may lend up to \$150,000 for assessments, audits, and other brownfield costs. Chicago deposits three dollars in the partner bank for every one dollar it lends to small businesses for environmental projects. The City also has financed brownfields projects with about \$1.3 million in litigation settlements; \$2 million in general obligation bond proceeds; and more than \$4 million in general city funds.

Cook County helps with financing as well, reducing the property assessment rate for brownfields to 16 percent of market value for up to three years while cleanup and redevelopment take place, resulting in as much as a 55 percent annual tax savings. The State also provides a tax incentive for sites that are under the State voluntary cleanup program and have received no-further-remediation letters. The tax credit equals 25 percent of outstanding remediation costs, with a \$100,000 deductible and a \$700,000 cap on eligible costs. This can translate into a savings of up to \$40,000 per year, with a maximum total savings of \$150,000 per site.

In addition, Chicago administers a supplemental environmental project (SEP) on behalf of EPA and the U.S. Department of Justice (DOJ). SEPs are projects conducted by parties found in violation of environmental laws, which help local governments tie together environmental and economic improvements and keep enforcement dollars in the area where violations are committed. For example, the City has used \$950,000, received through a DOJ consent decree with Sherwin Williams, for site testing, building demolition, and site cleanup in one of the areas targeted for brownfield redevelopment.

The Chicago brownfields program has also benefited from a new Illinois eminent domain law that allows cities to consider the environmental condition of property in determining its fair market value in a condemnation proceeding. This means that Cities can account for the reasonable costs of bringing property into compliance when setting a price, so that they don't have to pay an inflated price for the property and then pay again to clean it up.

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BALTIMORE, MD: City Develops New Tools to Promote Brownfields Redevelopment

The City of Baltimore, Maryland is working to clean up and redevelop approximately 1,000 acres of potential brownfields, over 400 of which are located within the City's federal Empowerment Zone. With an array of city, state, and federal support, incentives, innovative practices, and outreach to the community, the City has made tremendous progress in reclaiming these lands. As a result, the City is creating a cleaner environment, expanding job opportunities, increasing the tax base, removing blight, and preserving open space.

Since the Baltimore Brownfields Initiative began, more than 30 sites have been assessed through federal, state, local, and private partnerships. In addition to working with EPA, the

City partnered with HUD in establishing a loan and grant program, an inventory of sites in the Empowerment Zone, and joint economic planning. The City partnered with the State of Maryland to conduct 20 site assessments and redevelop an industrial site that created 180 new jobs. Since 1996, Baltimore has completed 30 brownfields projects, creating or retaining more than 3,000 jobs and attracting more than \$300 million in new investment.

One of the more notable projects is the redevelopment of the 1.3 million square foot Montgomery Ward warehouse, now transformed into "Montgomery Park Business Center." Baltimore Development Corporation lined up \$8 million in HUD Section 108 financing to assist with cleanup and other upfront costs. As of September 2003, the property accommodates four major office tenants — including the headquarters for the Maryland Department of Environment — which employ about 1,800 persons, many of whom reside in nearby low-income, minority communities.

Baltimore's Brownfield Toolbox

Baltimore's brownfields program is coordinated by the Baltimore Development Corporation (BDC), a non-profit corporation chartered by the City of Baltimore to act as its economic development agent. BDC identifies and works to remove barriers to redevelopment, expedite public approvals and permits, and provide information on available sites. Toward these ends, Baltimore has instituted many programs and incentives to help stimulate brownfields cleanup and redevelopment.

The Baltimore Brownfields Council was formed to serve as an advisory body and conducts outreach activities to communities. The Council has helped encourage community involvement in the City's brownfields projects. Community organizations active in economic development, environmental cleanup, or job training include Baltimore Civic Works, Southeast Development, Inc., the Council for Economic and Business Opportunity, the Baltimore Urban League, and Jubilee Baltimore.

**Baltimore has completed 30 brownfields projects,
creating or retaining more than 3,000 jobs and
attracting more than \$300 million in new investment.**

One of the tools that has proven effective in stimulating cleanup and redevelopment is the \$2.5 million Empower Baltimore Brownfields Loan and Grant Program. This is a federally funded program that offers loans to projects within the City's federally recognized empowerment zone. Loan funds can be used to cover the cost of site assessments, remediation, acquisition, demolition, and other predevelopment costs. State brownfields funds from the Maryland Brownfields Revitalization Incentive Program and the Maryland Clean Water Revolving Loan Fund are also frequently employed in closing finance gaps on brownfields projects.

BDC is also a recipient of a \$1 million EPA Brownfields Revolving Loan Fund grant and several \$200,000 Site Assessment grants. BDC has committed \$750,000 in local bond funds to supplement and add flexibility to the EPA funds.

In 1998, the City also instituted a Brownfields Property Tax Credit for purchases of properties that are eligible for Maryland's brownfield voluntary cleanup program (VCP). Under this program, a tax credit of 50-70 percent of the increase in City property taxes attributable to all improvements to a site after entering the VCP is granted for 5 years, or 10 years if the property is in a recognized Enterprise Zone. The City is also authorized to grant a tax abatement for past taxes on a brownfield site as needed.

BDC has also worked closely with the Maryland Department of the Environment, business groups, and environmental groups to craft statutory and administrative improvements to Maryland's brownfields programs. One result is a comprehensive brownfields reform bill that was signed into law in April, 2004. The changes streamline and expand eligibility for the Maryland Voluntary Cleanup Program.

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EAST PALO ALTO, CA: Revitalizing Economically Distressed Areas

The City of East Palo Alto, California is a small community of approximately 30,000 that is overcoming significant obstacles to revitalization. While not enjoying the economic prosperity of its neighboring communities in Silicon Valley, the City has a proven track record of revitalization success and a solid vision for expanding upon that success.

East Palo Alto has the highest levels of unemployment and poverty and the lowest median income in San Mateo County. In addition, the City has struggled to significantly reduce its crime rate, which was one of the highest in the nation in the early 1990s. A major stumbling block to overcoming these problems is the brownfields contamination that impacts a substantial portion of the City's land, left behind from decades of industrial waste, illegal dumping, and pesticide pollution. Because of this contamination, East Palo Alto suffered from a lack of investment in the transportation, utility, and economic infrastructure necessary to revitalize abandoned and unproductive areas in the community.

Despite these obstacles, the City is making great progress. Selected as one of the first 16 "Brownfields Showcase Communities," East Palo Alto is now recognized as a national leader in cleaning up and redeveloping abandoned brownfield areas. East Palo Alto has successfully leveraged federal resources and made great progress toward its redevelopment vision. The following successes demonstrate that the investment of federal resources is paying off:

- ▶ The Gateway 101 Development Project, started in 1996, has leveraged a \$2.8 million Economic Development Administration grant and a \$3.8 million federal transportation grant into a mixed-use, housing and retail power center. The project includes 129 multifamily units, 221 single-family units (including over 80 below-market-rate units), a Home Depot, a Best Buy, an Office Depot, and has generated nearly 100 new jobs, \$2.4–2.7 million in annual revenues, and more than a ten-fold increase in property values.
- ▶ East Palo Alto has built a community health clinic and non-profit center on City-owned lands in the Ravenswood Industrial Area through the support of the US Department of Health and Human Services.
- ▶ The first full-service bank in 15 years opened in East Palo Alto in February 2002.
- ▶ A Starbucks coffeehouse opened in January 2002 as part of a partnership with Earvin "Magic" Johnson's development company to develop Starbucks stores in underserved areas. A Togo's and a Baskin Robins have also opened next door.
- ▶ A luxury Four Seasons Hotel is under construction as part of the City's University Circle redevelopment project. The hotel is expected to generate hundreds of jobs and \$1.5 million annually in tax revenues.
- ▶ In the last five years, annual sales tax revenues have increased from \$402,000 to \$2 million.

- In two years, over 600 long term jobs have been created in the City.
- The City has significantly reduced the incidence of crime.

The City is now looking to build on this success as it continues to confront its unique challenges and revitalize its community. The City's top priority is the revitalization of the Ravenswood Industrial Area and the adjacent Four Corners area, a combined 130 developable acres. After years of agricultural, commercial, and industrial use, the property is affected by a multitude of toxic substances. However, the City has developed, and is beginning to implement, a strategic plan to clean up and redevelop this area into a mixed-use development and employment center, with up to 2 million square feet of commercial, light manufacturing, and high technology office space, and new medium-density housing nearby. Land owners in the Ravenswood area, many of whom have held property for ten years or more, have formed the Ravenswood Shores Business District, LLC, to coordinate and foster private development in the area.

East Palo Alto has increased its tax base tenfold and reduced its dependence on federal grants from 50% to 1% of its operating budget during the past decade, through the successful redevelopment of the City's brownfields.

At the core of the redevelopment plan is the City's goal to enhance the community and its livability. As part of this goal, the City will seek to promote the location of environmentally-sensitive businesses, the use of green building practices, and development that enhances and protects the beauty of adjacent resources such as San Francisco Bay, wetlands, and open space areas. The Four Corners portion will become a new town center including civic space, government buildings, and commercial businesses.

As Silicon Valley is rapidly running out of housing and developable land, the City is poised to leverage its investment in the Ravenswood Industrial Area to take advantage of the tight real estate market. The City expects that the redevelopment of this area will create thousands of new jobs, generate more than \$1 million per year in new tax revenues and help the City to finally share in the prosperity of the region.

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HOUSTON, TX: Community Outreach and Education Spurs Revitalization

During the economic boom in Houston, Texas, in the 1970s and 80s, many businesses and residents left the downtown area for new developments on the outskirts of the city. For years, the downtown area floundered and, in many places, concerns of contamination at abandoned properties inhibited new development. In 1996, the City received a \$200,000 Brownfields Demonstration Pilot grant from the EPA and launched its Brownfields Redevelopment Program as part of an overall urban revitalization initiative. In 2000, the City was selected by EPA as one of the nation's Brownfields Showcase Communities.

During its eight-year history, the City's Brownfields Redevelopment Program has focused on redeveloping idle or abandoned properties in the urban core and built one of the nation's most successful brownfields programs. To date, the City of Houston's Brownfields Redevelopment Program has fostered the reuse of 550 acres of brownfields and leveraged the investment of \$720 million in redevelopment projects. The Program has helped to create more than 2,560 new full time jobs and return \$1.6 million in delinquent taxes and \$604,250 per year in property taxes to local government entities. The Program has completed 12 projects and has 16 sites in various stages of assessment, remediation, and redevelopment.

One of the keys to Houston's success has been its effective strategies for conducting outreach to the community and involving community leaders in the decision making process. Because Houston has no zoning, industrial and manufacturing sites are interspersed with residential neighborhoods and businesses. As a result, when industrial or manufacturing sites were abandoned, they had a tremendous impact on Houston's urban neighborhoods. They caused blight and disinvestment, posed threats to public health and hazards to children, led to illegal dumping, and provided areas for criminal activity.

Houston's leaders knew that establishing strong tools for soliciting and encouraging community input was critical to the success of the brownfields program.

Thus, Houston's leaders knew that establishing strong tools for soliciting and encouraging community input was critical to the success of the brownfields program. When the brownfields program was formed, the City also formed the Land Redevelopment Committee (LRC), a group of community and business leaders charged with advising the Brownfields Redevelopment Program. Members of the LRC are appointed by the Mayor and include experts in community planning, environmental law, clean-up, engineering, finance, insurance, and environmental justice. The LRC has helped the City develop criteria for prioritizing sites, brokered redevelopment deals, and conducted outreach and education to the community. The LRC has monthly public meetings and gives presentations to community-based organizations, community development corporations, and faith-based organizations.

In addition to the efforts of the LRC, the Houston Brownfields Redevelopment Program holds a brownfields workshop every year for the community. These workshops provide an opportunity for property owners, developers, community groups, and other stakeholders to learn about the City's brownfields program, the Texas Voluntary Cleanup program, tools and resources for brownfields redevelopment, financing, and other brownfields topics. The workshops are well attended by both Houston stakeholders and folks from other Texas communities that want to learn from Houston's experience.

Houston's efforts to involve the community have resulted in many successful projects, from the new home of the Houston Astros to a new downtown aquarium and restaurant complex, and many others.

However, perhaps the best example of the benefits of this approach was the development of affordable senior housing on a former truck maintenance yard. Located in Houston's East End, this 3.1 acre brownfields property was abandoned in 1979 and sat idle for 17 years. It became an illegal dumping ground for trash and other debris and came to be known as the East End Dump. Community frustration over the blighted property and a near kidnapping at the site convinced the owners to seek a developer for the property. The Latino Learning Center, a local community development group which had been struggling to find a place to build much needed affordable senior housing and a community center, found out about the site and worked with the Houston Brownfields Program and the Land Redevelopment Committee to conduct a site assessment. The LRC educated the Center about the brownfields program and helped clear the way for the transfer of the property to the Center by convincing the owners of the site to enroll the site in the Texas Voluntary Cleanup Program. When the cleanup was completed in 1998, the site was donated to the Center. Construction of the Senior Housing center, with 65 attractive units of housing for the under-served, elderly population of Houston's East End, was completed in 2000.

The Latino Learning Center's senior housing project is a demonstration of Houston's ability to bring together community leaders and private property owners, educate them about brownfields, and turn a blighted, contaminated property into a new development that fulfills a critical community need. In addition, the success of this project has led to plans to redevelop an adjacent site into a Seniors' Day and Health Care Center and a 5,500 square foot community center where local students can attend classes in English-as-a-Second-Language, Math, Science, Computer Science, Secretarial Studies, and Air Conditioning.

Houston's focus on community outreach and education has played a critical role in the phenomenal success of its brownfield program and has created a model for other communities to follow.

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EMERYVILLE, CA: Area-Wide Brownfields Strategy Turns Community Around

Once a manufacturing town, Emeryville, California suffered severe blight as much of its local industry abandoned the area in the 1970s. By 1996, this predominantly low-income, minority community on the San Francisco Bay was blighted by 234 acres of vacant or underutilized property and 213 acres with suspected soil or groundwater contamination. Over 20 percent of the City's non-residential property was vacant and over 40 percent was underutilized. The extent of the contamination and sheer number of brownfields imposed significant transaction, cleanup, time, and regulatory costs on any new development. As a result, risk-averse investors were reluctant to invest in the area. It is estimated that the lack of investment cost Emeryville \$13.3 million in tax revenues and 450 jobs between 1991 and 1996 alone.

The City used a \$200,000 EPA brownfields grant to turn the situation around. In order to address the contamination concerns of potential developers, the City developed a comprehensive, area-wide approach to environmental cleanup, rather than a site specific approach. This allowed the City to collect environmental data on whole areas of the City that were marred by brownfields, and then target cleanup and revitalization efforts accordingly.

The City incorporated hydrogeologic, soil, and groundwater information for more than 2,100 properties into a geographical information system (GIS) that also includes economic, land use, and zoning information. The system was then made available to the public via a "one stop

shop" on the internet. This allowed potential developers, landowners, and other interested parties to locate a site in the GIS database and quickly pull up essential information regarding the site. Available information includes owner name and contact information, size, soil contamination level and types, groundwater contamination level and types, zoning data, groundwater monitoring locations, current land use, land use restrictions, and more. Users can search for a site based on a variety of identifiers and then print out a list of sites meeting those criteria.

This one-stop shop has helped address stakeholder concerns about locating in Emeryville and has helped to quickly transform Emeryville into a center of technology, research, office,



and retail. A diverse mix of housing, commercial, industrial, and retail developments have been built or planned for Emeryville. To date the one-stop shop initiative, in conjunction with a variety of financial incentives, regulatory streamlining, and a comprehensive groundwater management plan, has leveraged over \$644 million in redevelopment and construction dollars. Planned developments in the area are expected to generate 8,400 jobs over the next 20 years.

The Chiron Life Sciences Center, a campus of twelve new buildings to be built on a 25-acre brownfield over the next two decades, is one major achievement of Emeryville's revitalization program. The Chiron Corporation, the second largest biotechnology firm in the country, is redeveloping a site that historically housed transformer maintenance and petroleum research facilities. One building is on the site of a former Pacific Gas & Electric materials distribution facility, with extensive PCB contamination. Emeryville assisted Chiron in assembling the project site and pledged 30 years of tax increments for extraordinary development expenses such as remediation, infrastructure improvements, and community amenities. In exchange, Chiron paid for these costs in advance and is contributing to community facilities and services. Chiron has qualified for more than \$11 million in future reimbursements.

Over a 20-year period, Chiron plans to build 2 million square feet of research and office space and employ approximately 4,200 people. The company completed construction of its first 280,000 square foot building in 1998, at a cost of \$190 million, housing more than 500 scientists and support staff. Chiron will also construct a park called Horton Landing between the company's campus and the railroad tracks, connecting to the Doyle Street Greenway.

By utilizing modern GIS technology and a variety of financial and regulatory incentives, Emeryville has emerged from its dark days as an obsolete industrial center to a bright new future with new businesses, employment opportunities, increased tax revenues, and new services for its residents.

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KING COUNTY / CITY OF SEATTLE, WA: Technical Assistance Helps Small Businesses Revitalize Brownfields

In 1994, the Metropolitan King County Council created the Duwamish Coalition to “preserve and reclaim industrial land for the purpose of expanding the manufacturing and industrial job base, and protecting and enhancing the natural environment.” This broad-based public-private partnership led to the creation of the King County / City of Seattle Brownfields Program, which was selected as one of the 16 original brownfields showcase communities in 1998.

The Duwamish Coalition and the King County / Seattle Brownfields Program created the Environmental Extension Service (EES) to help local businesses identify and cost-effectively solve environmental problems. Modeled after the U.S. Department of Agriculture’s Agricultural Extension Service, EES provides free technical assistance in brownfields assessment, cleanup, and redevelopment to businesses, nonprofit organizations and municipalities in King County. EES assistance includes limited Phase One environmental assessments that involve research on past and present uses, meetings with interested parties, site visits, review of existing environmental information and determination of next steps. EES also provides assistance with navigating the regulatory and technical requirements of the cleanup process, consultant referrals, interpreting consultant reports, identifying and leveraging resources, and developing cleanup options.

In the early days of the program EES staff spent numerous hours conducting outreach to potential clients, including door to door visits and attending meetings with local businesses. The results of the EES have been remarkable. Since 1999, they have helped complete 50 site assessments, leverage more than \$10 million in private and non-profit cleanup and redevelopment funds, create 260 temporary and 210 permanent jobs, and save local businesses more than \$250,000 in consulting costs.

The EES has been particularly effective in helping small businesses and non-profit organizations navigate the challenges of cleaning up and reusing their brownfields. Examples of successful projects include the following:

- EES helped the owner of a family business who wished to retire assess and clean up his auto wrecking yard and sell the property for redevelopment into a gas station/mini-mart.
- EES helped a small marine boat-building business relocate and expand its operation on to a brownfield, by providing strategic advice that helped save time and money and gave the owner comfort that he could complete the transition successfully. The business was able to retain 63 jobs and create 20 new ones through this expansion.
- EES helped the owner of a small bakery who had purchased an old dry cleaners find an attorney who was able to secure cleanup funds from the former cleaners’ insurance company. The site was cleaned up in 2003 and the bakery opened in 2004.

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STATE

Effective State Brownfields Programs

States play a critical role in encouraging and supporting brownfields cleanup and redevelopment efforts at the local level. State Voluntary Cleanup Programs (VCPs) and similar state response programs have been critical to help purchasers, developers, lenders, and other stakeholders overcome their fear of purchasing a potentially contaminated site and being drawn into confusing and costly CERCLA liability. In addition, states provide funding for assessment and cleanup, tax incentives for businesses that locate on brownfields, protection from liability, education and promotion of brownfields, and more tools to promote the redevelopment of brownfields.

In fact, more than half the states have some type of program in place to help finance brownfield reuse. What is interesting is their variety; states are putting many different approaches in place to help localities meet the diverse challenges of brownfield reuse — challenges that include financing site assessment and cleanup, financing the more complicated planning and transaction costs that brownfield typically require, and the green to actually clean up the brown. They recognize that no specific type of public-private partnership — and no single approach — fits the financing needs of all brownfield projects.

The following profiles highlight just a few of the types of incentives, support, and services states are providing to help local communities address brownfields.

MASSACHUSETTS

Massachusetts established a privatized, voluntary cleanup program in 1993, and passed its Brownfields Act in 1998. The former created a cleanup program that provides flexibility for the cleanup of brownfields and other sites; the latter created financial and liability programs that assist brownfields projects. As of 2004, more than 650 projects received funding approval and/or direct project assistance as a result of the Act's implementation, and partner agencies have provided concerted outreach in over 200 communities.

Managed and overseen by state-licensed site professionals, cleanups under the program are tied to future reuse, and can include activity and use limitations. The program offers a choice of cleanup standards based on a chemical-specific approach with numerical standards, or a cumulative-risk approach based on site-specific information. From a universe of 30,000 sites that have been reported to the Massachusetts Department of Environmental Protection, 20,000 site cleanups have been completed.

Liability Protection

Massachusetts provides liability relief directly under the statute to various parties undertaking brownfields projects, including tenants, downgradient property owners, secured lenders, and municipalities. Parties that complete a cleanup under state regulations, are not causally responsible, and meet other requirements of the law are considered "eligible persons." Eligible persons have liability protection against Commonwealth claims for response action costs

and natural resource damages once a cleanup is completed. For complicated projects that do not benefit from the statutory protections, parties can negotiate a Brownfields Covenant Not to Sue with the Office of the Attorney General. This agreement provides protection that the statute does not, such as protection for causally responsible parties and temporary solutions, in exchange for cleanup and redevelopment of a site.

Funding

MassDevelopment, in partnership with the State's Brownfields Advisory Group, administers the Brownfields Redevelopment Fund, designed to provide flexible financing for site assessments and cleanup actions in economically distressed areas. The state's site assessment program provides interest-free financing of up to \$50,000 for innocent landowners or operators or eligible persons with site control or evidence of right to enter the site for the purpose of conducting environmental testing.

The remediation loan program offered through the Brownfields Redevelopment Fund provides low-interest financing of up to \$500,000 for environmental cleanup. These loans are secured by a mortgage or other substantial collateral, and the borrower must be the owner or tenant of the site. Terms are quite flexible and determined on a case-by-case basis.

Limited funding is available through the state Urban Brownfields Site Assessment Program administered by the Executive Office of Environmental Affairs and the Department of Environmental Protection. This fund offers assessment resources to environmental justice communities undertaking brownfields cleanup projects.

Insurance

MassBusiness, in partnership with the Department of Business Technology, administers the Massachusetts Brownfield Redevelopment Access to Capital (BRAC). This is a \$15 million state subsidized environmental insurance fund program based on two pre-negotiated policies: (1) a Cleanup Cost Cap/Pollution Legal Liability policy to pay for unanticipated costs associated with planned cleanup, third-party liability, business interruption and cleanup of previously existing unknowns; and (2) a ten-year Secured Lender policy to protect lenders from defaults on loans made for cleanup and redevelopment while environmental conditions remain on site. BRAC subsidizes premiums for both policies by 25 percent.

Incentives

The state offers tax credits for remediation at commercial/industrial sites of 25 percent (with reuse restrictions) or 50 percent (without reuse restrictions) for eligible parties who "diligently" pursue and complete site cleanups in economically distressed areas before 2007. The Massachusetts Economic Development Incentive Program provides a menu of tax options including: negotiated prospective municipal property taxes on all value or enhanced value, for up to 20 years; exemption from local personal property taxes; a 5 percent state investment tax credit; and a 10 percent abandoned building tax deduction. In addition, municipalities may negotiate back taxes on contaminated sites in exchange for a commitment from the new owner to clean and restore the site to the tax rolls.

As of June 2004, the state's BRAC Program had assisted 227 projects leveraging \$133 million in cleanup dollars, creating and/or retaining 23,239 jobs, and leveraging \$1.7 billion in private investment dollars. The Brownfields Redevelopment Fund has provided \$29 million in assessment and cleanup loans to over 379 brownfields projects. Dozens of brownfields covenants not to sue have been negotiated with the Office of the Attorney General.

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Bureau of Waste Site Cleanup
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MICHIGAN

Michigan's voluntary cleanup program follows risk-based standards for soil and groundwater in several land use categories: residential, commercial, and industrial, as well as limited uses with institutional controls. From 1992 to 2002, Michigan's brownfield program processed 5,485 baseline environmental assessments and issued 243 brownfield grants and loans for projects that are now completed or underway.

For voluntary cleanup sites where benefit information is available, the state estimates that its brownfield efforts have generated an estimated 13,000 jobs and \$2.3 billion in private investment, as well as over 1,500 housing units on 29 different sites, with a value totaling \$103 million. The private sector has invested approximately 28 private dollars for every dollar of grant funds.

Liability Protection

Michigan's Natural Resources Environmental Protection Act (1994, amended in 1995) exempts landowners from liability for existing contamination if they complete a baseline environmental assessment and submit it to the State department of environmental quality (DEQ) within 45 days of purchase, and they may seek covenants not to sue. Non-liable new owners must use "due care" when redeveloping the property.

Funding

Michigan normally offers a wide array of brownfield funding assistance targeted to all aspects of the reuse process, but recent budget problems have at least temporarily curtailed many of them. The Clean Michigan Initiative, a \$675-million bond issue approved by voters in November 1998, included \$255 million for brownfield cleanup.

In addition, a state revitalization revolving loan fund provided \$30 million for loans to cities for site assessment, demolition, and removal actions at an interest rate of 2.25 percent, repayable over 15 years with 5-year deferral of repayment and interest to allow cities to repay loans from tax increments collected by a Brownfield Redevelopment Authority. However, this program has been unfunded due to the current budget difficulties in Michigan.

Brownfield Redevelopment Authorities, which have TIF/bonding authority, can also set up a site remediation revolving fund from tax increments captured after remedial actions are paid for. An Amendment in 2000 allows functionally obsolete and blighted properties in urban communities to use TIF for infrastructure, demolition, site preparation, and lead and asbestos abatement.

Incentives

Michigan offers a single business tax credit of 10 percent (with a \$1 million cap) for the development costs (but not cleanup costs) of innocent parties on properties included in the brownfield plan of a Brownfield Redevelopment Authority. A new brownfield credit, enacted in 2000 as part of the Obsolete Property Rehabilitation Act, allows the abatement of up to 100 percent of taxes on real property for up to 12 years when an urban community creates an Obsolete Property Rehabilitation District. Both credits expired in January 2003, and were subject to renewal.

For more information, contact:

Michigan Department of Environmental Quality
517-373-8450
www.deq.state.mi.us/erd/brownfields/

NEW JERSEY

New Jersey allows three cleanup levels for unrestricted use, limited restricted use, and restricted use, and in some circumstances allows for natural attenuation of ground water contaminants through application of a Ground Water Quality Standard Classification Exception Area (CEA) institutional control. In all situations, the contamination source must be removed.

Liability Protection

The state offers no further action letters with covenants not to sue. Potentially responsible parties can participate in the voluntary cleanup program, but may not benefit from the covenant not to sue. Subsequent landowners may be eligible for covenants not to sue. The New Jersey statute also provides an innocent purchaser defense against state and third party damage claims for brownfield developers that receive a no further action approval for a site remedy conducted under the state Voluntary Cleanup Program; the developers must have been in no way responsible for polluting the site. Prospective Purchaser Agreements provide liability protection to qualified developers prior to the issuance of no further action letters and covenants not to sue, provided the cleanup is completed under the State's oversight.

Funding

The Hazardous Discharge Site Remediation Fund provides low-interest loans and grants up to \$1 million to private entities for remediation activities; and up to \$2 million a year in grants and loans available to municipal governments for orphan sites and sites obtained through tax sale certificates or foreclosure for redevelopment purposes. This fund also offers a 25 percent matching grant for the successful application of innovative or alternative site remedy technologies, or for expenses associated with remediating a site to unrestricted or limited restricted use levels. In addition, the state Environmental Infrastructure Trust Fund provides low-interest loans for brownfield activities that improve water quality. Developers may also recover up to 75 percent of their site remedy costs under the Brownfield Reimbursement Fund should the end use of the site generate certain state tax revenue, including Sales Tax and Corporate Business Tax. Private developers have entered into more than 57 redevelopment agreements for cleanup cost recovery totaling more than \$279 million.

Incentives

Municipalities may designate qualifying Environmental Opportunity Zones, supported by incrementally increasing real property tax abatements (which offset cleanup costs) for up to 15 years, as needed. The State Brownfield Development Area (BDA) initiative allows a community to address environmental and redevelopment issues in an area-wide approach, providing community-based end-use planning and economies of scale for site investigation and remedy. In addition, brownfield redevelopment is a major component of the NJ State Development and Redevelopment Plan (State Plan). New Jersey has rigorously applied Smart Growth principals to development of this State Plan in an attempt to conserve and preserve open space, natural resources and drinking water supplies while providing regulatory, liability, and financial incentives for redeveloping urban properties.

For more information, contact:

New Jersey Department of Environmental Protection
609-984-3122
www.state.nj.us/dep/srp/brownfields/

OREGON

Oregon's Voluntary Cleanup Program (VCP), established in 1991, provides seasoned project managers who can help applicants navigate the cleanup process. Applicants select their own consultants, and may choose between removal/treatment technologies or risk-management options such as institutional controls. The same risk-based standards apply to all sites. Applicants also may choose the degree of oversight desired during site investigation and cleanup, including an independent cleanup option where the state's only involvement is reviewing a final report that often results in a no-further-action (NFA) decision. As of August 2004, there were 358 sites active in the VCP; in the first half of 2004, the VCP issued NFA letters for 30 sites.

Liability Protection

Oregon offers a Prospective Purchaser Agreement (PPA) program to define the limits of state liability for potential buyers of contaminated sites; the state has negotiated over 50 PPAs since 1995.



Financing

Oregon Economic & Community Development Department (OECDD)

Oregon's capital access program offers loan portfolio insurance for environmental actions and brownfield redevelopment projects, and the credit enhancement fund includes environmental actions and brownfield redevelopment projects as allowable uses for loan guarantees for individual businesses. Through grants or loans, the state's brownfield redevelopment fund can finance environmental assessments, feasibility studies and site remediation. Moreover, cleanup loans and grants are available to eligible projects through the Oregon Coalition Brownfields Cleanup Fund which is financed through a

\$1.5 million EPA Brownfields Cleanup Revolving Loan Fund grant. In addition, the state's special public works fund is available to municipal and tribal governments for environmental assessments on industrial-zoned properties, and for remediation on industrial-zoned properties under municipal ownership.

Oregon Department of Environmental Quality (DEQ)

DEQ has no direct grant or loan programs for brownfields. However, DEQ has access to EPA grants, through which it can conduct brownfield assessments for no charge at sites under public, quasi-public (e.g., ports), or non-profit ownership.

Incentives

A DEQ work group provides technical assistance to identify resources, including federal, state, and private funding, and financing available through OECDD.

For more information, contact:

Oregon Department of Environmental Quality

503-229-6258

www.deq.state.or.us/wmc/cleanup/brn0.htm

Oregon Economic and Community Development Department

503-986-0123

www.econ.state.or.us

PENNSYLVANIA

Pennsylvania's Land Recycling Program, established in 1995, identifies risk-based standards for cleanup, simplifies the approval process, and limits future liability when standards are attained. Rather than using a formal risk-based process, the program offers a choice of background, statewide health, or site-specific cleanup standards. Institutional controls may be part of site-specific responses, but they are not permitted for attaining background or statewide health standards.

As of July 2004, the program had cleaned up 1,711 sites, with 700 more sites underway. The program's redeveloped brownfields have created an estimated tens of thousands of jobs and provided the impetus for the creation or retention of approximately 1,700 businesses. Many sites having spurred recreational areas, green space, and residential development.

Liability Protection

The program releases clients, including potentially responsible parties, from liability for approved cleanups. In April of 2004, Pennsylvania entered into the first One Cleanup Program memorandum of agreement (MOA) with EPA. The MOA clarifies that site remediation conducted under the State's Land Recycling Program may also satisfy requirements under federal environmental laws including CERCLA, RCRA, and TSCA.

Funding

The State's Industrial Sites Reuse Program offers loans and grants to municipalities and private entities of up to \$200,000 for site assessment and \$1 million for remediation, per year. The loans and grants require a 25 percent match, and loans carry a two percent rate for terms up to five years for assessments and 15 years for remediation. In addition, the Infrastructure Development Program provides public and private developers with grants and loans for site remediation, clearance, and new construction, up to \$1.25 million per project at a three percent interest rate for 15 years. The Brownfield Inventory Grant program offers grants of up to \$50,000 to cities and development authorities to carry out brownfield inventories.



Gov. Edward G. Rendell, on March 31, 2004, announced the bipartisan approval of several major pieces of Pennsylvania's *Economic Stimulus Package* which will fuel a major new investment in communities across the Commonwealth. This initiative invests nearly \$2 billion for the revitalization of

Pennsylvania's communities. Programs include Business in Our Sites, Building PA, the New PA Venture Guarantee Program, the New PA Venture Capital Investment Program, the 2nd Stage Loan Program, the Tax Increment Financing Guarantee Program and the Infrastructure and Facilities Improvement Program. More information on these new financial programs may be found at www.newpa.com.

Incentives

In 1998, Pennsylvania established Keystone Opportunity Zones, where all taxes may be forgiven for up to 12 years. The State also created the Job Creation Tax Credit program for firms that increase employment by 25 jobs or 20 percent within three years from their start date with the program, offering a tax credit of \$1,000 per new job.

Assistance

Pennsylvania's Key Sites Initiative for municipalities and economic development agencies uses state-funded contractors to conduct site assessments and prepare cost estimates and

remediation plans to promote the reuse of abandoned industrial properties. In addition, the PA SiteFinder web site helps to market previously used commercial and industrial properties available for redevelopment in the State. Users may list a site for sale or lease and also search for available properties by location, acreage, building square foot, or cost. Once a potential site is identified, additional information can be retrieved including county, municipality, property size, zoning, buildings and conditions, and utility access.

For more information, contact:

Pennsylvania Department of Environmental Protection
Land Recycling and Cleanup Program
717-783-7816
landrecycling@state.pa.us
brownfields@state.pa.us

WISCONSIN

The State of Wisconsin has been on the leading edge of brownfields policy, program initiatives, and cleanups since the mid-1990s. This effort has been led by Wisconsin's Brownfields Study Group, a bi-partisan group of brownfields practitioners, including a number of state agencies.

Technical Resources

The Remediation and Redevelopment (RR) Program within the Wisconsin Department of Natural Resources (WDNR) assists in the investigation and cleanup of environmental contamination and the redevelopment of contaminated properties. The RR Program is a comprehensive, streamlined program that consolidates many state and federal programs into a single program to offer time and cost savings.

WDNR's program uses a single administrative cleanup rule for all types of contamination cases. Under the rule, performance-based cleanup standards apply to all cleanup sites, including sites under the State's Voluntary Party Liability Exemption (VPLE). All parties, including responsible parties, are eligible. The WDNR approves over 500 closures (i.e., no further cleanup action necessary letters) per year. The WDNR has issued close-out letters for approximately 14,000 sites (including those for traditional spill cleanups), and 135 active sites are currently in the VPLE cleanup process.

Other progressive initiatives include use of a risk-based corrective action process that offers applicants three choices of cleanup standards for soil contamination: (1) numeric values in regulation; (2) site-specific cleanup standards; or (3) risk-based performance standards. Groundwater must meet enforcement standards or demonstrate that it will meet standards.

Wisconsin's regulations allow for, or require in some cases, the use of institutional controls to obtain site closure. Such controls include deed restrictions for soil performance standards, groundwater use restrictions for sites closed using natural attenuation, and calculations of site-specific soil cleanup standards based on the type of land use. The sites with deed restrictions and groundwater use restrictions are tracked on WDNR's web-based Registry of Closed Sites and Bureau for Remediation and Redevelopment Tracking System.

Liability Protection

In Wisconsin, persons who cause a discharge or own contaminated property are responsible for cleaning up the contamination. Wisconsin law establishes procedures for certain parties to limit their liability. This includes local governments, lenders and impacted neighbors. Others may also qualify after WDNR approves of the investigation and cleanup of a contaminated property in the VPLE process.

The VPLE process offers Certificates of Completion (COCs) and exemption from liability that may be transferred to new owners. After the WDNR approves environmental investigation

and cleanup of an entire property, the voluntary party receives a COC and is protected from future liability. As of 2001, parties can use natural attenuation to get a COC if they pay for environmental insurance through the State program.

WDNR also has the authority to issue a variety of assurance letters to clarify liability in various situations.

Funding

The State of Wisconsin has brownfields financial incentives available at many state agencies:

- The Department of Commerce's brownfield grant program totaled \$14 million in the 2001-2003 biennium for public or private use for investigation, cleanup, and redevelopment. Most of these grants require a 20-50 percent match.
- WDNR administers the brownfields Site Assessment Grant (SAG), which in its first four years awarded grants to 162 brownfields sites in 84 different communities on more than 554 acres of land. In addition, the WDNR's land recycling loan program uses clean water fund moneys to provide for no-interest loans to municipalities for site assessment and cleanup with a 0.5 percent service fee. The brownfields site assessment grant program, totaling \$3.4 million for the 2003-2005 biennium, offers grants to local governments at a 20 percent match for site assessment, investigation, demolition, and tank removal.
- WDNR has a brownfields green space and public facilities grant program, which awarded 11 projects a total of \$1 million in 2003 for local governments to clean up brownfields that will be reused as green space, recreation areas, or local government facilities.
- WDNR administers an EPA Revolving Loan Fund of \$4 million on behalf of the Wisconsin Brownfields Coalition (Wisconsin DNR, Commerce, Administration, and the nine Regional Planning Commissions). WBC plans to loan and sub-grant these funds to local governments and tribes to "jump-start" redevelopment projects and complete a limited number of green space projects. Some funds may be made available to help provide incentives for Wisconsin's new Environmental Insurance Program.
- Blight Elimination and Brownfield Redevelopment grants at the State Department of Commerce are provided from state-administered Community Development Block Grant funds to small cities (less than 50,000 people) for assessing or remediating sites in blighted areas. The grants cover up to \$100,000 for assessment and \$500,000 for cleanup.
- WDNR has a Dry Cleaner Environmental Response Fund, financed through an industry tax, which reimburses up to \$500,000 per facility to clean up solvent discharges.
- WDNR Environmental Fund moneys, totaling an estimated \$5.6 million over the 2003-2005 biennium, are available for state-lead cleanups at priority contamination sites, including some brownfields.



Through these state brownfield grants, 56 brownfield projects will create an estimated 3,950 jobs and increase property values by an estimated \$356 million on 687 acres.

Incentives

Wisconsin offers several tax incentives for brownfield redevelopment. Up to 50 percent of remediation costs in designated zones are eligible for development zone tax credits. Business

improvement districts can also use special tax assessments in designated districts to raise revenues for Phase I and II assessments, public improvements, redevelopment staff, and cleanup costs. Environmental remediation tax increment financing can be provided to recoup investigation and remediation costs in districts designated by local governments. Wisconsin also recently received \$100 million in federal new market tax credits, which will be used to promote investment in low income neighborhoods, historic preservation, brownfields, and many other areas.

In addition, localities can cancel delinquent taxes if a new owner or another person agrees to clean up contaminated property.

For more information, contact:

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608-561-7714
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608-267-6713
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STRONG PARTNERSHIPS

Strong Local-Federal Partnerships

The federal government has been an important partner to local communities looking to revitalize brownfield properties. Federal agencies and officials have provided technical and financial support, helped upgrade the community infrastructure needed for redevelopment, helped raise national awareness, improved the legal liability framework for brownfields re-users, provided job training in brownfields redevelopment, and in some cases even loaned employees to communities to get brownfield programs going.

In particular, the EPA has done a tremendous job of leading the federal brownfields effort. Since 1993, EPA has provided nearly \$700 million in Brownfields funding to states, local governments, and other stakeholders to revitalize the brownfield properties that blight communities and inhibit economic development. EPA's brownfields efforts show what can happen when the federal government works cooperatively and openly with local and state governments, community groups, developers, and other stakeholders to solve a problem. In 2000, the EPA's brownfields program won the prestigious John F. Kennedy School of Government, and Council for Excellence in Government's "Innovations in American Government Award," the nation's top honor for innovative government programs that have best served the public.

Indeed, the vast majority of profiles in this book include some sort of partnership with the EPA. However, while the EPA's efforts over the last decade have made the Agency a brownfields champion, the Agency is not the only unit of the federal government that supports the revitalization of brownfields. In 1998, EPA and other federal agencies launched the Brownfields Showcase Communities Initiative. The purpose of the initiative was to demonstrate new models of local-federal collaboration, where the resources of multiple federal agencies could be leveraged to assist local brownfields programs and projects. More than 20 federal agencies participated in the initiative, which leveraged hundreds of millions of dollars in assistance for communities and led to many innovative brownfields strategies and projects.

This section highlights a few of the strong partnerships that local governments have formed with other federal programs to revitalize brownfields, including many examples from the Showcase Communities. The role of other federal agencies in brownfields and community revitalization will become increasingly important as communities seek to invest federal public works and infrastructure resources into brownfields. This federal public works investment in brownfields can include transportation, housing, economic development, water resources development, technology, research and development, education, law enforcement, job training, finance, and other key forms of public investment. As these profiles demonstrate, it pays for local communities to look for support not just from EPA but other federal agencies as well.

Economic Development Administration— Beefing Up Brownfields Infrastructure in Kansas City KS/MO

By establishing a strong partnership with the Economic Development Administration (EDA), the neighboring cities of Kansas City, Missouri and Kansas City, Kansas have been able to successfully rebuild sewer infrastructure and revitalize an area known as the Central Industrial District (CID). This urban industrial area straddles the Missouri and Kansas state lines and was once a national center for stockyard, meatpacking, agriculture, railroad and manufacturing industries. However, decades of catastrophic flooding, economic dislocation and deferred maintenance caused severe deterioration in the CID to the point where damaging sewer



overflows became routine. As a result, many businesses abandoned the area. The two cities are now working to redevelop the CID and return it to a manufacturing and retail area for local residents to enjoy.

In order to realize this vision for the CID, the cities turned to EDA, which awarded them a \$1 million EDA public works grant to rescue the industrial area from the brink of physical and economic collapse. With this grant, the cities have achieved major success. For instance, three extensive CID brownfield sites have been cleaned up and transformed into viable

property available for future development. This modest grant has now leveraged more than \$100 million in new private investment (including a \$17 million industrial expansion in the CID by the Faultless Starch / Bon Ami Company) and \$51 million in public infrastructure. One showcase project, the Lewis & Clark Redevelopment Project, was awarded the 2000 Phoenix Award for Excellence in Brownfields Redevelopment in EPA Region 7.

For more information, contact:

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Economic Development Administration
202-482-2309
www.doc.gov/eda

U.S. Army Corps of Engineers— Dredging Up the Industrial Past and Channeling a Revitalized Waterfront in Glen Cove, NY

Strategically situated adjacent to Long Island Sound and along Glen Cove Creek, Glen Cove, New York was the industrial center of Long Island's Gold Coast from the late 1800s to the mid 1900s. Years of industrial activity have left a mark on Glen Cove's waterfront, and the City now faces the responsibility of revitalizing this once-vibrant area by reclaiming a cluster of brownfield sites along a mile of Glen Cove's waterfront, adjacent to the downtown. By reversing the physical decline of the waterfront district, restoring environmental quality, and improving economic vitality, Glen Cove is transforming this blighted area into a regional tourist destination with increased greenspace and waterside attractions. In 2003, the Glen Cove Industrial Development Agency signed a Land Disposition Agreement with Glen Isle Development, LLC to develop a

hotel, a conference center, possible residential units, restaurants, retail shops, parks, and a pedestrian/bicycle esplanade.

To accomplish this waterfront revitalization plan, the City is collaborating with county, state, and federal agencies. This collaboration has enabled Glen Cove to leverage more than \$40 million in funding and technical assistance. The U.S. Army Corps of Engineers is one federal agency that is providing invaluable assistance to Glen Cove.



Through an interagency agreement with EPA, the Corps conducted an area-wide characterization study of contamination and sediment inputs from brownfields at the terminal end of Glen Cove Creek. This study helped the City develop an effective revitalization plan for this waterfront area, which is a visual focal point for the Creek. In addition, the Corps performed bulkheading and maintenance dredging of the federal navigation channel in Glen Cove Creek, properly disposing of the contaminated material and equipment. Since working with the Corps requires match funding from the local government, the City obtained a \$135,000 appropriation through its Members of Congress to complete this dredging project. The Corps has also provided valuable planning and engineering assistance to develop conceptual plans for improving vital transportation access to the waterfront area. By focusing on the restoration of Glen Cove Creek, the Army Corps of Engineers is helping the City of Glen Cove realize its vision of a revitalized waterfront district that will attract tourists from around the country.

For more information, contact:

Cara Longworth, Executive Director
Glen Cove Community Development Agency
516-676-1625
www.glencove-li.com/

U.S. Army Corps of Engineers
New York District
212-264-0100
www.nan.usace.army.mil/index.htm

**Department of Housing and Urban Development—
Building Blocks for Brownfields Revitalization in Los Angeles, CA**

Los Angeles has created a local Brownfields Team with members from the Mayor's Office of Economic Development, the Community Redevelopment Agency, the Environmental Affairs Department, the Community Development Department, the City Council's Chief Legislative Analyst Office, and other departments and agencies as needed. With assistance from HUD and other federal agencies, the Los Angeles Brownfields Team is rehabilitating and revitalizing three demonstration sites, in addition to granting money from a newly-established Brownfields Revitalization Fund. The goal of this local-federal partnership is to develop effective strategies to enable the remediation and redevelopment of brownfields throughout Los Angeles, particularly in disadvantaged communities.

The rehabilitation of the Goodyear Industrial Tract site in Los Angeles is an example of one demonstration site that has significantly benefited from the local-HUD partnership. Originally the site of a Goodyear Tire manufacturing plant, this 208 acre industrial area is located in South Central Los Angeles near the high speed, high capacity Alameda Corridor. The Goodyear Industrial Tract Site is occupied by 325 small industrial businesses and is surrounded by residential neighborhoods. Due to past uses, the site contains an unknown number of contaminated land parcels. Potential contamination concerns include PCBs, volatile organic compounds (VOCs), petroleum hydrocarbons, and pesticides. As a result, business owners in the Goodyear Industrial Tract have been unable to obtain financing for expansion and remodeling. The contamination, coupled with security and transportation infrastructure concerns, have hindered efforts to recruit new business to the area.

Determined to create a long-term economic recovery program for the property, the City Brownfields Team assembled an array of federal and local resources. HUD awarded the City a \$12.1 million Brownfields Economic Development Initiative (BEDI) package, including \$1.7 million in grants and \$10.4 million in Section 108 guaranteed loans. BEDI is a competitive grant program that HUD administers to assist communities with the redevelopment of brownfields through projects that increase economic opportunities for low- to moderate-income people, such as job creation and strengthening the local tax base. BEDI grants must be used in conjunction with a Section 108-backed loan, provided through HUD's Community Development Block Grant (CDBG) program. Los Angeles has used its federal money to accomplish the following: fence the site, monitor access, clean up abandoned rail spurs, rebuild infrastructure, and provide businesses with the support they need to expand and address contamination-related issues. Through its partnership with HUD and other funding sources, including \$300,000 from the City's Brownfields Revitalization Fund, the Los Angeles Brownfields Team plans to develop a revitalized business community that offers such attractions as a supermarket and full-service retail shopping center on the Goodyear Industrial Tract.

The Brownfields Team has also used a portion of its annual HUD CDBG money to establish a \$4.45 million local Brownfields Revitalization Fund. The Brownfields Revitalization Fund provides grants for assessment, acquisition, remediation, and community involvement activities at brownfield sites within the City. In addition to the \$300,000 grant to the Goodyear Industrial Tract, the L.A. Brownfields Team used \$350,000 from the Fund to create a database of parcel information, identify the scope and costs of soil cleanup, and provide economic development and marketing studies to target appropriate reuses for another demonstration site.

For more information, contact:

Noemi Emeric
Los Angeles Environmental Affairs Department
213-978-0872
www.ci.la.ca.us/ead/labf/index.htm

U.S. Department of Housing and Urban Development
Office of Community Planning and Development
202-708-1112
www.hud.gov/offices/cpd/economicdevelopment/programs/bedi/index.cfm

U.S. Department of Transportation — On the Track Toward Revitalization in Stamford, CT

The City of Stamford, Connecticut is partnering with the Connecticut Department of Transportation, the Southwestern Regional Planning Agency, and federal agencies, including the U.S. Department of Transportation (DOT), to make major transportation improvements that are critical to the City's revitalization plans. The Stamford Urban Transitway will facilitate

access for buses and high occupancy vehicles traveling between Interstate 95 and the Stamford Intermodal Transportation Center — one of the busiest commuter rail and bus stations in America. The Stamford Urban Transitway will improve pedestrian access, and enhance the implementation of intelligent transportation systems. The project will also include new sidewalks and bicycle lanes on either side of the roadway, and upgraded drainage systems to accommodate traffic needs and enhance the transportation network for an area targeted for revitalization. The Center currently provides a major transfer point for local bus and employer shuttle service, and provides access to existing Amtrak and Metro-North rail service. In order to accommodate the anticipated growth in commuter capacity at the Transportation Center, the rail platform has been expanded and a 1,200-space parking facility has been constructed.

As exemplified by the Stamford Urban Transitway, DOT provides states and municipalities with the flexibility to redevelop brownfields and provide access to brownfields through federally-funded transportation projects. DOT encourages state and local transportation agencies to develop transportation improvement programs in conjunction with brownfields remediation and redevelopment efforts, provided that the brownfield sites necessitate the proposed transportation improvement, and the cleanup and liability costs are reasonable in relation to the cost and public benefit of the project. DOT's brownfields policy is intended to contribute to the reuse of abandoned and blighted land, conservation of open space, better transportation, improved communities, and greater economic vitality.

The estimated cost for the Stamford Urban Transitway is approximately \$70 million, including financing from the City of Stamford, and substantial funding from DOT's Federal Transit Administration New Starts Program, and the Federal Highway Administration's Surface Transportation Program. The New Starts Program is a federal and local cooperative program designed for the planning and construction of transit projects. DOT's funds will enable the Stamford Urban Transitway to improve transit operations, safety, and efficiency and to encourage public transportation and non-motorized modes of transportation to accommodate current and future traffic needs. In addition, the Transitway will be a critical catalyst for the redevelopment of Stamford's south end which contains numerous brownfield properties. Construction of the Stamford Urban Transitway is scheduled to begin during the summer of 2005.

For more information, contact:

City of Stamford Engineering Bureau
203-977-5796
www.ci.stamford.ct.us/Engineering/UrbanTransitway/default.asp

U.S. Department of Transportation
Federal Transit Administration
202-366-1734
www.fta.dot.gov/office/planning/ep/subjarea/hazmat.html

**Department of Justice — Weeding out Crime,
Seeding Revitalization in Providence, RI**

After the State of Rhode Island was selected as a Brownfields Showcase Community in 1998, the City of Providence received official recognition from the U.S. Department of Justice (DOJ) in 1999 as the first "Weed and Seed" site in Rhode Island. Operation Weed and Seed is a DOJ community-based initiative that provides an innovative and comprehensive approach to law enforcement, crime prevention, and community revitalization. The Operation Weed and Seed strategy aims to prevent, control, and reduce violent crime, drug abuse, and gang activity in targeted high-crime neighborhoods. The strategy involves a two-pronged approach: (1) law enforcement activities "weed out" criminals who engage in violent crime and drug abuse within the project site; and (2) human services, including prevention, intervention and treatment,

and community development, "seed" the community to facilitate neighborhood revitalization. Community policing serves as a link between the weeding and seeding activities.

Recognizing that crime prevention goes hand in hand with community revitalization, the Department of Justice became an active participant in the federal brownfields partnership. DOJ initially offered up to \$50,000 in flexible Operation Weed and Seed funding to be used at the discretion of local communities for brownfields activities, including: (1) conducting education and outreach to citizens and businesses; (2) building partnerships among stakeholders; (3) planning community involvement and environmental justice initiatives; (4) assessing the potential reuse of brownfield sites; (5) rehabilitating existing facilities; (6) contributing to local employment and training activities; and (7) assisting non-profit organizations with economic development.



Providence has received training, technical assistance, and \$625,000 over three years from DOJ for its Weed and Seed initiative. The federal funds are administered through the Providence Police Department, as the fiscal agent, with Nickerson Community Center, a non-profit social service agency, serving as the administering agency. Providence has targeted the funding towards youth services and additional community policing in the neighborhood of Olneyville. As one of the

oldest neighborhoods in Providence, Olneyville has suffered from significant disinvestments over the past thirty years. Once a leading industrial center, employment declined during the second half of the 20th century and Olneyville became largely depopulated, with a high level of poverty amongst remaining residents.

The Weed and Seed coalition in Providence has received further funding through DOJ's Drug-Free Communities Support Program for a drug prevention proposal. The federal grant is being used to strengthen existing efforts to prevent substance abuse in Olneyville. The coalition is developing a youth-based curriculum focusing on reduction of negative behaviors among at-risk Southeast Asian youth, including substance abuse, sexual activity, violence, and destruction of property; and increasing positive, rewarding lifestyles through altering group norms and beliefs.

In addition, a neighborhood revitalization plan is being developed, which will address housing, neighborhood services, open space/recreation, intermodal transportation, jobs, schools, health care, child-care, and public safety. It will also include an action component with specific strategies for carrying out the plan over five years. In conjunction with the City's Code Enforcement Department, a four-block area of Olneyville has been identified as needing immediate attention. Code Enforcement has designated an investigator to assess the properties and record the necessary violations as well as follow up with the properties.

Through its partnership with DOJ, Providence is successfully engaging both the physical and human aspects of neighborhood revitalization in Olneyville.

For more information, contact:

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U.S. Department of Justice
Office of Justice Programs, Executive Office for Weed and Seed
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www.ojp.usdoj.gov/eows

National Park Service—Creating an Underwater Brownfields Experience in Charleston, SC

On Charleston's waterfront, a 1.5 acre contaminated site that was formerly owned by the National Park Service has been redeveloped as the home for the 69,000 square foot South Carolina Aquarium.

The aquarium site is within the 18 acre Calhoun Park Area that runs along the Cooper River. The property consisted primarily of mudflats that were filled in by the Navy to provide additional space to work on small boats during World Wars I and II, but then sat idle for nearly 50 years. Over that time, the site was impacted by uses on surrounding properties. A manufactured gas plant operated on an adjacent site, which from 1855 to 1910 also housed a coal gasification plant. Over the years a saw mill, chemical company, creosoting plant, paint



manufacturer, fuel company, and retailer of coal, wood, and coke all operated near the site. The National Park Service obtained the site from the Department of Defense in 1987.

In 1984, Mayor Joseph Riley announced plans for an \$8 million, 30,000 square foot aquarium in downtown Charleston. However, it was determined that the proposed downtown location for the aquarium would have exacerbated an already congested traffic area and an alternative site was sought. After an extensive

search, the brownfield site owned by the National Park Service was chosen for its ideal location near downtown and along the waterfront. To prepare the site for redevelopment, the City began excavation to improve the site's drainage. In 1991, the excavation of the site revealed significant creosote contamination. EPA investigated the site and designated it a Superfund Accelerated Cleanup Model (SACM) site, which meant that the site would be treated as if it were on the National Priorities List (NPL) of federal Superfund sites. As a result of this determination, the National Park Service was concerned with the liability issues associated with the property and reluctant to lease the property to the City.

To overcome these barriers, the City worked with EPA, the South Carolina Department of Health and Environmental Control, the National Park Service, and other federal agencies to negotiate an effective plan for assessment, cleanup and redevelopment. As a result of those discussions, the Park Service agreed to give the City a 50-year lease on the property. In all, it took eight years to assess the site, two years to implement the cleanup plan, and four years to build the project. The aquarium finally opened in May of 2000, more than 16 years from the date it was originally proposed.

The aquarium has been a tremendous asset to the community, employing a staff of 110 and 450 volunteers. From May 2000 to May 2002, the aquarium had 1.3 million visitors and in its first seven months brought in \$8.8 million. The redevelopment has also spurred brownfield revitalization at neighboring sites along the river. However, the aquarium has many other benefits beyond its significant economic impact. It serves as an educational and environmental resource center with exhibits on the five major aquatic ecosystems in South Carolina. The aquarium has established an education program that allows elementary and secondary school students to attend the aquarium for free, provided they participate in programmed lessons prior to and after their visit.

According to Charleston Mayor Joseph P. Riley, "We now have an important state asset in the South Carolina Aquarium, a valuable environmental tool to educate our citizens about the importance of our regional environment, and another opportunity for waters edge access for our residents and visitors."

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National Park Service—Rehabilitating an Urban Park in East Palo Alto, CA

The City of East Palo Alto is a vibrant low-income community that is overcoming significant brownfields contamination and other challenges to revitalization in partnership with a number of federal agencies, including the Department of Interior's National Park Service. In the early 1990s, East Palo Alto had a per-capita murder rate higher than most major metropolitan cities and a serious drug trafficking trade. While the crime rate has subsided through the work of



many federal-local partnerships, only one out of the City's four parks remained open in 2002, leaving a lack of positive recreation opportunities for East Palo Alto's youth.

In 2001, Martin Luther King (MLK) Jr. Park was forced to close due to lack of funding for maintenance. However, with a \$300,000 Urban Park and Recreation Recovery (UPARR) grant from the National Park Service in May 2002, MLK Jr. Park is being rehabilitated to safely serve community residents' recreational needs and to spark revitalization

in broader areas of the community. The UPARR program provides matching grants for rehabilitation, innovation, and planning, as well as technical assistance to economically distressed local governments. These grants are critical to help communities provide urban recreation activities for underserved populations, particularly at-risk youth and minority, low-income, elderly and disabled neighborhood residents.

MLK Jr. Park has traditionally served as the home of the East Palo Alto Little League. UPARR grant funds have been used to replace the old baseball field with a multipurpose field, upgrade the walking paths and landscaping in the park, and add lighting. The goal of East Palo Alto's redevelopment plan is to enhance the community and its livability. In pursuit of this goal, the rehabilitation of MLK Jr. Park through the City's UPARR grant has provided significant recreation activities and direct access to the San Francisco Bay wetlands for East Palo Alto's 30,000 residents. As of summer 2004, the MLK Jr. Park rehabilitation project is 98 percent complete. It is expected to be completed by 2005.

The types of recreational facilities rehabilitated through UPARR grants include playgrounds, neighborhood parks, tennis and basketball courts, recreation centers, swimming pools, ball fields, picnic areas, and exercise trails, often in areas impacted by deterioration and brownfields. In addition, UPARR grants allow localities to convert idle non-recreational facilities into recreation centers that better serve the surrounding communities. The UPARR program encourages systematic local planning and a commitment to the continuing operation and maintenance of recreational programs, sites, and facilities.

For more information, contact:

City of East Palo Alto Department of Community Services
650-853-3139
www.ci.east-palo-alto.ca.us/community/index.html

U.S. Department of Interior, National Park Service
Urban Park Recreation and Recovery
National Center for Recreation and Conservation
202-354-6900
www.nps.gov/uprr/

U.S. Forest Service—Unique Ecological Area Budding in Chicago, IL

The 20-square mile Calumet region on Chicago's southeast side is the focus of a new partnership, including the State of Illinois, the City of Chicago, and the U.S. Department of Agriculture's, Forest Service, among others, that is rehabilitating both the region's economy and ecology through innovative, smart growth projects. The Calumet area was once one of the largest wetland complexes in lower North America, teeming with native flora and fauna. However, due to its strategic location, the region was also home to 120 years of heavy industrial activity, the remnants of which include thousands of acres of contaminated brownfields in need of cleanup, interspersed with thousands of acres of open space that provide a critical habitat to over 700 plant species and 200 bird species.

Through brownfields revitalization, wetlands and land preservation, urban forestry and phytoremediation, renewable energy, and low impact development, Chicago seeks to make Calumet a national model of ecological innovation. As stated by Mayor Richard Daley, the Calumet project recognizes that "good environmental management is good for business, and good industrial development is good for the environment."

Launched in June 2000, the Calumet project targets 3,000 of the area's 6,000 acres for brownfields redevelopment with sustainable technologies and industry. This redevelopment includes the construction of a new Ford Motor Company manufacturing complex that will use grass roofs, streamside buffers, and other low impact development innovations to significantly reduce stormwater runoff into local Calumet waters like Indian Creek.

The Calumet region's sustainable brownfields redevelopment will be linked with natural ecosystem rehabilitation and preservation through the creation of a 4,800 acre Calumet Open Space Reserve. The U.S. Forest Service, Chicago Department of Environment, and Illinois Department of Natural Resources, along with a range of local, state, and federal partners, worked to establish a "Calumet Area Ecological Management Strategy" as the framework and guidance for land managers to clean up their respective parcels within the Open Space Reserve. This strategy is the result of extensive collaboration among government agencies, local museums, residents, and environmental groups. The partnership aims to revitalize the watershed holistically, through preserving critical habitat, improving the ecology, establishing public recreation corridors, and creating new ecosystems appropriate for the area. The ecological management strategy is complimented by a land acquisition and preservation strategy for the Calumet Open Space Reserve. In order to interpret and celebrate the uniquely linked natural and industrial history of the Calumet region for visitors, school children, and residents, construction of a new Calumet Environmental Center is planned within the Open Space Reserve.

The U.S. Forest Service participates actively in the Brownfields National Partnership. The U.S. Forest Service's mission is to achieve quality land management under a sustainable multiple-use concept that meets diverse needs. Through its work on the Calumet Open Space Reserve, the U.S. Forest Service is building on its long-term involvement in natural resources

management in the greater Chicago area. The U.S. Forest Service's contributions on the Open Space Reserve are focused on the ecological restoration of the site, including a project to use tree planting and urban forestry to help remediate contaminated soils and water in the Calumet region. The U.S. Forest Service is also assisting Chicago and area industries to transform the degraded, channelized Indian Creek into a more natural, meandering stream that can support aquatic insects and fish.

For more information, contact:

Chicago Department of Environment
312-774-7609
www.ci.chi.il.us/environment

U.S. Department of Agriculture Forest Service
202-205-8333
www.fs.fed.us

Federal Housing Finance Board—Financing a Mixed-Use Urban Village in Des Moines, IA

In 1993, the Riverpoint West area of Des Moines was devastated by a major flood. Business losses in the area totaled approximately \$120 million. However, a partnership between the City of Des Moines and the Federal Housing Finance Board (which oversees the Federal Home Loan Bank system), along with other federal and state agencies, the private sector, and developers, is enabling the revitalization of the 300-acre Riverpoint West area.

Riverpoint West is located directly south of the Central Business District. It offers an exciting opportunity to transform an underutilized, environmentally-contaminated industrial tract of land into an vibrant urban village with residential and commercial uses, including office and retail development. The adjacent Central Business District will be strengthened through the integration of housing, commercial, retail, and recreational development in Riverpoint West that will attract potential employees. A minimum of 125 acres of currently idle property will be cleaned up and returned to productive use. Construction of approximately 750 townhouses and condominiums and 450,000 square feet of low-rise office and retail space is planned in Riverpoint West. An estimated 500 quality, livable wage jobs will be created to help reduce the area's 30 percent poverty rate. The synergy between the revitalization of Riverpoint West and the Central Business District is expected to increase Des Moines' tax base from \$12 million to more than \$140 million and help decrease urban sprawl. In addition, the landscaped open space in Riverpoint West will maximize use of the natural resource amenities at a nearby lake and park to create recreational opportunities for residents and visitors. A pedestrian bridge will be installed over the Raccoon River to link up with walking and biking trails. The redevelopment challenge has entailed determining the nature and extent of environmental contamination from past industrial uses of the Riverpoint West area, assessing the geotechnical constraints that may limit construction density, and obtaining nearly \$20 million to fund land assemblage.

In a first-of-its kind effort, the Federal Home Loan Bank of Des Moines, working in partnership with the Iowa Finance Authority, has proposed an innovative equity investment of \$2 million, and up to \$20 million in debt investment in the Riverpoint West project on a limited liability basis to facilitate site preparation prior to construction of the planned housing, commercial, and retail development. The Federal Housing Finance Board regulates the Federal Home Loan Bank system. In recent years, the FHFB changed its regulations to allow Federal Home Loan Banks to invest equity and debt resources in community revitalization projects, including brownfields revitalization projects. In addition, each of the 12 Federal Home Loan Banks, as required by law, annually sets aside at least ten percent of its net earnings for its

Affordable Housing Program, which subsidizes the cost of housing for very low-income and low- or moderate-income owner-occupied and rental housing. In 2004, a combined total of \$200 million is available for the Affordable Housing Programs. Through Community Investment Cash Advances and Letters of Credit, the Federal Home Loan Banks provide financing on favorable terms to their financial institution members for use in housing and community development projects on brownfields, which the Federal Housing Financing Board has deemed a priority. Subsequently, developers negotiate terms with member banks, which may provide more favorable financing. Des Moines' partnership with its Federal Home Loan Bank and the Iowa Finance Authority is a pioneering effort to direct new funding resources to old brownfields problems.

For more information, contact:

Des Moines Office of Economic Development
515-237-135
www.dmoed.org/sites/river_west.html

Federal Housing Finance Board
202-408-2500
www.fhfb.gov/FHLB/FHLBPS_index.htm

NOAA—Coasting to Brownfields Revitalization on the New Bedford Waterfront

Many of our nation's coastal areas suffer from contamination left behind by abandoned industrial sites along ports and harbors. New Bedford, Massachusetts has partnered with federal and local agencies, including the National Oceanic and Atmospheric Administration (NOAA), to meet the brownfield redevelopment challenges shared by many coastal communities. A former home to numerous industries, the City of New Bedford has suffered from the contamination of its coast, including Superfund sites and 150 acres of brownfield



sites; increased sprawl; and related high unemployment, poverty, and high school dropout rates that impede economic vitality. Moreover, harbor and wetland contamination forced vital lobster, fish and clam fisheries to close in the 1970s.

To assist the New Bedford Brownfields Task Force in rehabilitating the coastal contamination and thereby revitalizing New Bedford's economy, a NOAA brownfields coordinator

currently lives and works in the City. The NOAA brownfields coordinator assists with assessing and safely remediating coastal contamination; promoting the compatible and sustainable use of coastal areas, port and industrial zones, and recreation and tourism facilities; facilitating New Bedford's access to federal programs that fund economic redevelopment and worker training; planning and implementing environmental restoration; and using decision-making databases and mapping tools. The NOAA coordinator also serves as the primary liaison between New Bedford and its federal partners under the City's designation as one of three federal "Portfields" Demonstration Pilots.

The New Bedford Brownfields Task Force has inventoried and prioritized its brownfield sites. Some of the sites have already been rehabilitated and redeveloped. The City remediated

and promoted redevelopment of a 72 acre brownfield site for a local company that now employs more than 400 people. The City also created an industrial subdivision on a 25 acre brownfield site that had been vacant for over 60 years. Three lots have been developed, and development is underway at three others. Collectively, brownfields redevelopment efforts in New Bedford have led to the creation and retention of over 1,100 jobs and nearly \$80 million in private investment at these sites. New Bedford plans to continue its successful efforts in brownfields redevelopment to improve public access to the waterfront and increase the quality of near-shore habitat.

NOAA has been involved in New Bedford since the late 1980s, when it promoted remediation and restoration at the New Bedford Harbor Superfund site. NOAA views brownfield redevelopment as a unique opportunity to revitalize coastal communities using existing infrastructure and transportation, while preserving open space and protecting natural resources. In addition, NOAA is currently leading the federal interagency "Portfields Initiative" that promotes the redevelopment and reuse of brownfields in and around ports, harbors, and transportation hubs, with an emphasis on the development of environmentally sound ports.

Four NOAA offices currently provide assistance to coastal communities working on brownfields redevelopment. NOAA's Office of Response and Restoration protects and restores contaminated coastal resources and habitats, including brownfields, through assessment, evaluation, and implementation of cost-effective environmental remediation and redevelopment solutions. NOAA's Office of Ocean and Coastal Resource Management provides funding to coastal states for brownfields redevelopment in connection with their waterfront revitalization activities. NOAA's Office of Education and Sustainable Development provides funding to and sponsors workshops for coastal cities to assist such them in planning brownfields redevelopment. NOAA's Coastal Services Center provides coastal resource professionals with the tools to engage communities regarding land and water issues, including brownfields redevelopment.

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Department of the Treasury—Federal New Market Tax Credits for Brownfield Redevelopment in Cleveland, OH

The New Markets Tax Credit (NMTC) program, an initiative of the U.S. Department of Treasury's Community Development Financial Institutions Fund (CDFIF), is a federal tax initiative designed to infuse investment capital into low-income communities to support community development, including activities such as brownfield redevelopment. The NMTC program permits taxpayers to receive a credit against federal income taxes for making qualified equity investments in designated Community Development Entities (CDEs). Tax credits are allocated annually by CDFIF through a competitive application process. The CDEs awarded the tax credits will then sell the tax credits to taxable investors in exchange for stock or a capital interest in the CDEs.

The size of the credit is equal to 39 percent of the investors' qualified equity investments in a qualified Community Development Entity and can be claimed over a seven year period. The investor receives five percent for each of the first three years and six percent for each of the next four years. A CDE can use the proceeds from selling new market tax credits to assist eligible businesses by providing loans and financial counseling, amongst other community development activities.

Key Community Development New Markets LLC, a subsidiary of Key Community Development Corporation, in Cleveland, Ohio, is an example of a community development entity that is using its new market tax credit allocation to support brownfield redevelopment. Key Community Development New Markets LLC received \$150 million through New Market Tax Credits in 2002. The organization is using a portion of the tax credit proceeds to support brownfield redevelopment activities in communities where KeyBank has a retail market presence. Key Community Development New Markets LLC estimates that it will target 70 percent of its activities to urban areas, 20 percent of its activities to rural communities, and 10 percent of its activities to suburban locales. The organization is demonstrating the ability of the New Markets program to bridge financing gaps; create new partnerships between investors, communities, businesses, and government; and generate community revitalization through brownfield redevelopment.

In Cleveland, along the shores of Lake Erie, adjacent to the Edgewater Park Marina and State Park, the Eveready Battery Plant sat vacant for years. Environmental investigations found elevated concentrations of chemicals in the soil and ground water on the site. Eveready has taken voluntary action to plan a cleanup of the site, and has obtained a covenant not to sue from Ohio EPA. In 2003, Ohio based Marous Development became involved in an effort to revitalize and redevelop the site. Marous intends to build 330 residential units in a neighborhood style development to be called Battery Park. Marous is currently working with the Ohio EPA to finalize the plans. Marous is now in negotiations with Key Bank Community Development, and hopes to solidify a New Market Tax Credit for Battery Park. The development is slated to move forward this year.

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NIEHS—Creates JOBS in Historic Lowell

The National Institute of Environmental Health Sciences (NIEHS) is playing a significant role in the revitalization of Lowell, Massachusetts by helping to address the city's stagnant local economy and lack of developable land through job training related to brownfields redevelopment. As the nation's first planned industrial city, Lowell enjoyed a high level of economic prosperity until the exit of several manufacturing companies after World War I. The relocation trend left behind abandoned buildings and contaminated properties, as well as rapidly rising poverty, low job skills, and a high rate of unemployment in Lowell.

In an effort to expand the capacity and abilities of its work force and simultaneously address the brownfield sites that dot its urban landscape, Lowell has partnered with the University of Massachusetts at Lowell (UMASS Lowell), the Laborers-Associated General



Contractors Education, Training Fund (Laborers-AGC), and a local community based organization, Coalition for a Better Acre. A key component of the program was a partnership between UMASS-Lowell and Coalition for a Better Acre, servicing Lowell's most economically challenged neighborhood. The partnership received a NIEHS grant, administered by UMASS Lowell, that finances an annual three-month job training program called Environmental Justice on Brownfields

Sites (JOBS). The program is funded at \$390,000 annually.

Environmental JOBS offers participants two employment tracks: a construction/environmental remediation track, or an environmental technician track. The construction track prepares students for entry-level positions such as hazardous waste, lead and asbestos removal. The technician track provides students with the skill set to pursue entry-level positions in environmental sampling and monitoring at hazardous level waste sites. The program produced over 90 graduates by the end of 2002 and a 90 percent job placement rate. Focused on improving academic performance, and safety, health, environmental remediation, and construction skills, Environmental JOBS produced qualified graduates who are prepared to enter Lowell's workforce and contribute to reviving the City's economy through brownfields redevelopment.

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Successful Brownfields Projects

After more than ten years of brownfields revitalization, communities can point to hundreds of examples of projects that have successfully turned neighborhood blight into new opportunities for their residents.

Nevertheless, there are still thousands of brownfields in virtually every community in America, with more being created every year. These sites are waiting for the right combination of vision, commitment, and know-how to once again become productive properties that bring new vitality to the areas in which they are located.

The following profiles are intended to help communities envision what that fenced, blighted lot on the corner could become, and identify the tools and stakeholders that can make the project happen. These profiles of success are divided into categories of end use to demonstrate the many potential uses of brownfield sites, as well as to identify the varying resources and approaches that can be used on different types of sites. For more information on any of these projects, please contact the people listed at the end of each profile.

Housing Projects

Across the country, there is an increasing interest in cleaning up brownfield properties for residential purposes. A growing toolbox of technology and regulatory tools can ensure that residential sites are cleaned to levels safe for housing use. Building residential units on brownfields can be an excellent antidote to sprawling urban development, by attracting new customers to support nearby retail and commercial revitalization, as well as enhancing opportunities to develop new mixed-income and affordable housing.

Many communities are beginning to seize this opportunity and use tools like federal low-income housing tax credits to help make these projects work. The interest in residential uses of brownfield properties is sure to increase further as state voluntary cleanup programs become more established, and the impacts of recent liability protection provisions are absorbed by the market.

TRENTON, NJ: Neighborhood Rejuvenation on a Monumental Scale

Since 1994, Trenton has been working not only to clean up brownfield sites, but also to redevelop them in ways that address vital community needs. One of their most recent success stories, located in the historic Battle Monument Area, is the Monument Crossing Development, situated within an area targeted for affordable homeownership in the center of Trenton. The redevelopment of the Battle Monument Area transformed abandoned, vacant and foreclosed tax lots, which were deserted for decades after the social unrest in the 1960s. Today, there are 119 units of moderate-income housing in the Battle Monument area, including 84 units at Monument Crossing. The project is part of Trenton's six site, area-wide initiative that was recently awarded the Community Impact Phoenix Award.

Trenton's award winning Battle Monument Area project was able to overcome a variety of barriers to redevelopment including: (1) the coordination of acquiring land from multiple parties; (2) negative perceptions of the potential for redevelopment and community rebirth

All 84 units of moderate-income residential housing were sold prior to completion.

in the area; and (3) unexpected conditions, such as underground storage tanks, that required emergency action and additional funding.

The most challenging obstacle of the Battle Monument Area project, and its most remarkable achievement, was procurement of funding. Remediation funds of nearly \$1.5 million, the most difficult funds to obtain, were accumulated by the City over a period of

eight years, drawn from six state programs, three Federal programs, and three local sources. Obtaining cleanup funding was a major challenge, and the near decade of vision, patience, and perseverance to secure the funds made the ensuing construction phase a less arduous task. Active remediation by removal and disposal of 7,762 tons of fill was crucial to protect future homeowners and avoid the burden of deed restrictions or long-term environmental monitoring. Site remediation of the roughly ten acres of surficial and subsurface soils included permanent remedies to accommodate the planned residential sites. Major contaminants included site-wide soil impacts by metals (lead, arsenic, and others) and carcinogenic polynuclear aromatic hydrocarbons. Several underground storage tanks required assessment, investigation and remediation.

At Monument Crossing, residential development was conducted in three phases between 1998 and 2004. All 84 units of moderate-income residential housing were sold prior to completion. The development incorporated a new street and attractive streetscapes.

Monument Crossing reclaimed the investment-barren site through a public-private partnership between a non-profit local community development organization and a for-profit builder. The town home development was aimed at buyers earning less than 50 percent of the median income in surrounding Mercer County, with the 1100 square foot homes selling for an economical \$60,000-70,000. The result was renewed stability and newfound pride within the community.

Trenton's Monument Crossing project is a shining example of how to restore brownfields and transform them into valuable community assets by bringing together the right stakeholders and keeping the public's need for affordable housing in mind.

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SPARTANBURG COUNTY, SC: Neighborhood Partnership Brings Revitalization

Within Spartanburg County, the Arkwright and Forest Park neighborhoods tell an important story of deterioration and revitalization. They are adjacent to two Superfund-caliber sites: the former International Minerals and Chemicals (IMC) fertilizer plant and the Arkwright dump. Also located nearby are an operating chemical plant, an operating textile manufacturer, concrete production businesses, and other commercial and industrial facilities. Because of a lack of zoning restrictions and few land use controls in the area, these sites are near residential housing and, in some cases, share fence lines with homeowners.

During the 1990s, criminal activity around the IMC site alarmed nearby residents. While investigating what could be done to combat crime, resident Harold Mitchell discovered that a number of environmental contamination complaints about the IMC site had been filed with the South Carolina Department of Health and Environmental Control. This discovery led to neighborhood-wide discussions of the health risks the site might pose. These neighborhoods had a history of high death rates from cancer and respiratory diseases, as well as high rates of infant mortality, miscarriages, and birth defects. As awareness of the hazards grew, so did momentum to get the site cleaned up.

In 1997, Harold Mitchell founded ReGenesis, a community-based environmental justice organization, to provide leadership and to represent neighborhood interests in an effort to assess and clean up the two sites. ReGenesis worked with the EPA and the state environmental agency to assess levels of contamination, and to create a plan for cleanup. During these discussions,

the idea of redeveloping Arkwright and Forest Park gained support. As the focus of ReGenesis evolved, the organization continued to link other entities from the public and private sectors to the revitalization efforts. Several public forums in 2000 brought together stakeholders from federal and state agencies, businesses and industry, universities, and other interested parties and ultimately led to the formation of the ReGenesis Environmental Justice Partnership. Two local partners—Spartanburg County and the City of Spartanburg—joined with ReGenesis to form a core steering committee for the partnership. In addition to Mitchell representing ReGenesis, Elena Rush, director of Spartanburg County's Community and Economic Development Department (CEDD), and Mike Garrett, former city engineer for Spartanburg and current public works director for Spartanburg County, made up the partnership.

The partnership has brought considerable external funding to the area. It has garnered nearly \$7.5 million in grant funds for the community, and in July 2004, the Spartanburg Housing Authority received more than \$20 million in HOPE VI funds which will be used to improve housing in and around the ReGenesis Project Area. An additional \$79 million in leveraged resources has been committed for construction of 501 new housing units, community and supportive services, and business development for small and minority construction businesses. In addition, 267 of the new housing units will be constructed on one of six recently assessed brownfield sites. In 2002, the city, county, and ReGenesis signed a memorandum of understanding (MOU) that details the roles and responsibilities of each entity in revitalizing Arkwright and Forest Park, also limiting the liability of each organization to the value of the grants received. Hartmann comments, "Essentially, we wanted to have a formal agreement institutionalizing the expectations of ReGenesis, the city, and the county."

In the few short years since its formation, the partnership has achieved much, including the establishment of the ReGenesis Community Health Center (CHC) in 2003. The CHC serves not only the residents of Arkwright and Forest Park but also the greater Spartanburg community. In the first three months of its operation, CHC staff reported treating nearly 2,400 patients. Stakeholders in the partnership also helped secure "weed-and-seed" funding from the U.S. Department of Justice to help tackle criminal activity in the neighborhoods. Six brownfields sites have been assessed as part of a major redevelopment plan for the area. Through the ReGenesis partnership, the Spartanburg area hopes that per capita income can be raised, new jobs created, more investments made in children and children's education, and housing quality improved. Everyone stands to benefit if the vision of the ReGenesis partnership can be turned into an economic reality.

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* This profile is adapted from "When Environmental Justice Hits the Local Agenda: A Profile of Spartanburg and Spartanburg County" published in the June 2004 issue of Public Management (PM) magazine, published by the International City/County Management Association, Washington, D.C.

CINCINNATI, OH: From Factories to Factory-Built Housing

Residents of the Carthage neighborhood, five miles north of downtown Cincinnati, OH, had long complained about the noise, inconvenience, and potential environmental contamination associated with the industrial manufacturers on a 14 acre site in their otherwise residential neighborhood. In 1998, the City decided to rezone the property for residential uses and relocate the industrial manufacturers.

The City of Cincinnati spent \$6 million to clean up the site and relocate the businesses, but the Cincinnati City Council rejected a proposal to spend an additional \$6 million to build traditional homes. Instead, they sought a developer to either finance the construction or turn the site into a park.

Cincinnati civic leaders then proposed a new affordable housing development on the site to help address a critical need in the community. The site was ideally located with easy



access to transit services and just 5 miles from the central business district. However, the project again stalled as local homebuilders contended that the homes could not be built at affordable prices.

Fortunately, Potterhill Homes, a local residential developer, stepped in and offered to install 52 one- and two-story factory built homes on the site which met the City's affordable housing criteria and ranged in price from \$100,000 to \$160,000.

The City Council sold the property to Potterhill in April 2002 for one dollar, in exchange for the developer's agreement to complete the project at its own expense.

The resulting development, the Mills of Carthage, is the City's first housing development in the Carthage area in more than 40 years. Its 52 homes will be factory-built, mostly in bungalow and ranch styles with a few Cape Cods, designed for an urban setting of 40-foot-wide lots with back-alley garages, a pedestrian friendly streetscape, and spacious front porches. The manufacturers also submitted their designs to an architectural review committee to ensure that they fit with the area's existing architecture.

The grand opening for the project's first phase was held in October 2002, featuring the first 15 units fully decorated to showcase the comfort and amenities that factory-built homes can afford. Nearly all of the first 30 homes are already sold; construction of 30 additional homes is well underway.

By utilizing factory-built housing for this project, Cincinnati was able to turn this brownfield property into a new residential neighborhood that meets Cincinnati's affordable price guidelines.

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Waterfront Redevelopment

Communities across America are part of a major trend to reclaim and revitalize idled or abandoned waterfront areas. Once the domain of factories and industrial uses, waterfronts are now considered ideal locations for parks, housing, sports and entertainment complexes, shopping and dining areas, tourist destinations, recreational areas, and other uses that generate significant economic benefits.

LOUISVILLE, KY: Community Reclaims its Riverfront

Thirty years ago, Louisville's waterfront was notoriously blighted. The proliferation of junk and scrap yards along the Ohio River earned it the unflattering moniker, "Junk City," and its main claim to fame was that it was used for the car-crushing scene in the James Bond movie "Goldfinger." The area was also cut off from the rest of the downtown by a six lane elevated highway. In addition to the visual blight, both the soil and groundwater in the area were polluted with a vast array of contaminants.

In 1990, the Louisville community launched a visioning process to help chart a course for the City's future. The community recommended that the city break out of the mold of a 9-to-5 city, and instead make Louisville a 24-hour city where people could work, play, and live. To accomplish this goal, the community came up with a Master Plan that focused on the City's many advantages, and one of the highest priorities was to reclaim the waterfront. Soon after, a public/private partnership launched an effort to begin reclaiming the waterfront beginning with the cleanup of a 72-acre parcel. Louisville Slugger Field, a minor league baseball stadium, and a new 55 acre urban park, aptly named Waterfront Park, were chosen as the new uses for the area.

The area was marred by a range of contaminants left behind from more than 150 years of industrial uses. The most seriously contaminated soils were removed from the area and, where possible, lightly contaminated spots were contained or subjected to a pump-and-treat-process with long-term monitoring to ensure the natural attenuation of the contaminants.

The Waterfront Park was dedicated in 1999 and today over 1.25 million people visit each year for concerts, fireworks, festivals, and general recreational uses. The park features a beautiful great lawn for games and concerts, a festival plaza for special events, an extremely popular



children's play area, and a sculpted linear park with picnic areas, groves of trees, walking and jogging paths, a boat docking area, and breathtaking views up and down the Ohio River.

Louisville Slugger Stadium opened in 2000 as the home to the Cincinnati Reds' Triple A minor league affiliate, the Louisville Riverbats. The stadium is incorporated into a historic rail freight depot that dates back to the 1800s and serves as the stadium's entrance. The depot houses retail and restaurant space. The stadium seats 13,000 and attracted 668,000 visitors in its first two years of operation.

Together these waterfront redevelopment projects have generated millions of dollars in private investment, including the rehabilitation of abandoned or under-utilized buildings, the creation of new waterfront housing opportunities, and new office space.

Louisville and the Louisville Waterfront Redevelopment Commission recently completed work on Phase II of the Waterfront Park. This second phase added approximately 35 acres to the park, including another, much larger, children's play area, a small cafe, a rowing facility for school and community rowing groups, and an amphitheater. A pedestrian connection to Southern Indiana across the old Big Four railroad bridge is planned for Phase III.

Louisville's waterfront project won the 2002 Phoenix Award Grand Prize for Excellence in Brownfield Development and serves as a model for successful waterfront brownfields revitalization. More importantly, the city has a new, welcoming face and has shaken the "Junk City" image.

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BEND, OR: Town Turns Abandoned Timber Mill into New Waterfront Destination

A scenic, historic site along the Deschutes River that formerly housed two of the world's largest sawmills has been transformed into a dynamic mixed-use development that is attracting tourists and new residents to the center of Bend, Oregon. The redevelopment of this integral part of the City's past has restored economic vitality and a bright future to the center of Bend.

At their peak, the Brooks-Scanlon and Shevlin-Hixon sawmill operations ran around the clock and employed more than 2,000 workers each. Dwindling timber supplies starting in the 1950s led to the gradual decline of the mills. The entire site was abandoned in 1994.

The 270-acre site included areas for log storage, dry kilns, on-site power, vehicle maintenance, petroleum storage tanks, wood treatment, charcoal manufacturing, and a railroad. In August 1992, the Oregon Department of Environmental Quality (DEQ) inspected the facility and found several areas where hazardous substances were improperly stored or had been released into the ground, contaminating 180 acres. Initial investigation and removal actions followed from 1993 until 1996, when the site's developer signed a voluntary cleanup agreement with DEQ to complete remediation. The State made a no-further-action determination for the site in 1999.

There were several major challenges at the site. To prepare for redevelopment, grading, fill and removal were necessary for up to 12 feet of sawdust and wood waste. Riparian restoration called for removing the boulders and large blocks of concrete that had been used to stabilize the river bank.

However, perhaps the greatest challenge was rezoning the site from heavy industrial use to mixed commercial and residential use. Developers worked closely with City staff, the regional planning commission, City officials, and community members to draft an innovative mixed-

use riverfront zone that would allow for the incremental redevelopment of the site. The zoning gave the developers flexibility to pace and tailor the redevelopment to market demand. This was especially important in a small city of 50,000, where the market may take years to absorb large amounts of office, retail, and residential space. This incremental, market-driven approach helped make the project financially viable for the potentially long period between initial planning and final build-out.

This incremental, market-driven approach helped make the project financially viable for the potentially long period between initial planning and final build-out.

It took four years to clean up the site and nearly nine years to redevelop it. The full redevelopment, including a multiplex cinema and 6,000-seat open-air amphitheater, will take an estimated 18 years. The previous owners and site developer shared cleanup costs totaling \$1.25 million, and the entire development will cost an estimated \$400 million.

During its first year of operation, the new retail/entertainment center had gross sales of \$19 million. It employs approximately 1,700 people in retail, food service, office and technical support professions. Businesses on the site are expected to eventually employ a total of 5,500 by 2020.

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EAST MOLINE, IL: Small City Transforms Landfill to Waterfront Condos

In the 1990s, East Moline, Illinois was a Mississippi River town without a public waterfront. The town was landlocked from the river by the legacy of generations of former industry. The community was told the traditional model would be to build commercial on existing properties, and hopefully attract other developer interest that could integrate some elements of public access.

This community of less than 25,000 residents ignored "typical." Instead, they took back their riverfront by transforming the industrial landfill to residential use. Where not long ago dump trucks rumbled, residents today watch the river roll by from private decks. Where wetlands were once described as "a developer's nightmare," school children will watch bald eagles soar over the waters from the new River Interpretive Center that will open in 2005.

Recognizing the need for professional creativity and planning to make their vision a reality, East Moline prepared a redevelopment and economic redevelopment strategy that would simultaneously develop the riverfront and assist the revitalization of downtown. Community-minded citizens formed Revitalize and Develop East Moline (REDEEM), a not-for-profit organization to help lead and fund the initiative. Funds raised by REDEEM, were used for preliminary due diligence, environmental, and economic development studies, and other activities to foster economic development.

A community vision, *The Quarter: A Brownfields Riverfront Redevelopment*, emerged. *The Quarter* vision was to create a 100-acre hourglass-shaped zone of mixed-use development along

the Mississippi River. Studies have estimated at least \$40 million in private sector investment could be generated over the life of tax increment financing. The public sector will have to contribute approximately \$15 million.

But where to begin? The most readily available riverfront property had been used for decades by an agricultural implement manufacturer to dispose of miscellaneous residues and fills. The resulting 10 to 15 feet of industrial fill produced chemical impacts in all areas of the initial 12 acres of the development fronting the river.

In 1998 East Moline won its first EPA brownfields grant. From 1999 to 2000, Phase I, II and III environmental studies were conducted on an expedited basis for the proposed condominium areas using the EPA brownfields grant in combination with an Illinois brownfields redevelopment grant. Peripheral wetland areas deemed "problems" by early prospective builders were cleared of junk and debris and restored to habitat and wildlife preserves. Builders were identified to construct a series of \$250,000 to \$550,000 riverfront condominiums.

During 2000 and 2001 remedial action plans and risk-based closures were obtained for riverfront Lots 3, 4 and 5 incorporating a groundwater ordinance as a land use and environmental control. Environmental assessment/remediation costs on reused areas were less than \$200,000. These included innovative approaches reached through a consensus of stakeholders, state agencies and technical consultants. The cost savings were significant when compared to the initial \$1.2 million "hog-and-haul" industry approach. East Moline's innovative approach incorporated significant elements of the remedy into construction. No further remediation letters were issued by the voluntary Illinois Site Remediation Program and supported builder lock-in of financing. In 2001, infrastructure and the first phase of condominium site preparation and construction was underway. Construction used lot-specific soil management plans to maintain land use controls.

2002 and 2003 saw additional Phase II and III environmental assessments under a supplemental EPA brownfield assessment demonstration grant for Lots 2 and 6. Construction was completed on the second phase of condominiums using soil management plans.

In 2004, East Moline saw the public dock areas connected by water taxi to other Mississippi River communities in the area. *The Quarter* realized its vision as a "go to" destination for the community's 4th of July celebration. Now, evaluation for peripheral commercial interest and construction of a new welcome center continues. The long-term vision calls for a sports complex known as Gateway Park.

Since 1999, the unsightly landfill has been transformed into private condominiums, private and public docks, a new bike and jogging path, new infrastructure with river access and restoration of wildlife and ecological habitat areas. This project already provides a source of living and entertainment accommodations that benefit the entire region.

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Community Facilities

Often, the best use of a brownfield that is owned (or might be acquired) by a local government is a local government or community facility. When brownfields are situated in central locations, or in neighborhoods that lack basic community or social facilities, localities can use these properties as prime spots for public facilities. As the following examples highlight, local governments across the nation have used brownfields as sites for fire stations, police stations, government buildings, health clinics, community centers, senior centers, public works facilities, and other important community facilities.

BARABOO, WI—City Turns Old Rail Yard into New Service Center

The City of Baraboo (population 10,000) was a center for significant commercial and industrial activity in the 19th century. In the 1870s, Chicago & Northwestern (C&NW) built one of the state's largest rail yards, and ran the Baraboo rail yard until the 1930s. Switching operations were active there until the 1950s, when a local scrap dealer leased the property and built a large warehouse, operating a scrap yard until the 1990s. In the 1990s, a local earthmoving contractor rented the warehouse and used the property as a staging and repair yard.

Due to the long history of industrial and rail activities at the site, the property's soil and groundwater were contaminated with petroleum constituents, lead, polycyclic aromatic hydrocarbons, and PCBs. In almost all areas of the yard, metal, car parts, wood, plastic, and other debris were found in the upper three feet of the soil.

Nearly 10 of the site's 12 acres were contaminated. Baraboo used about six acres for its redevelopment project—the establishment of a 66,000-square-foot City Service Center, which is now home to the city's public utility, streets and sanitation, water utility, and park departments. The remaining land was used for green space.

The City of Baraboo performed Phase I and II environmental site assessments on the City Service Center site in 1997 and 1998. The site was then cleared of all existing buildings, refuse, and railroad debris. No active soil remediation was necessary, because, given the proposed use, the Wisconsin Department of Natural Resources (WDNR) authorized capping the surface of the site with asphalt, gravel, and the building slab to eliminate exposure to contaminated soil. The rail yard also had a large underground storage tank (UST), which was removed through the Wisconsin Petroleum Environmental Cleanup Fund Act program, and that portion of the site was capped by the new roadways and parking lots. Groundwater impacts are being remediated by natural attenuation and monitored with on-site and off-site monitoring wells.

The Baraboo City Council approved many resolutions related to the project, including measures to condemn the property so that the City could obtain liability protection while working cooperatively with the property owners. The condemnation process provided the mechanism for acquiring the property, and facilitating redevelopment by consolidating the parcels that had been under diverse ownership. Through televised meetings and coverage in the

daily newspaper, the Council kept the public informed of its decisions with information about project financing, site reuse plans, and grant applications.

In 2000, Baraboo received a \$30,000 Wisconsin DNR Brownfield Site Assessment Grant for site demolition and debris removal. The City also received a \$250,000 brownfields redevelopment grant from the Wisconsin Department of Commerce. Although the commerce department normally reserves its brownfield grants for private-sector projects that enhance the tax base and create jobs on brownfield sites, the City was able to obtain the grant due to the project's ability to encourage cleanup and redevelopment of the area — which, given its location in town adjoining the historic Circus World Museum, had a significant positive impact on Baraboo's tourism industry. In addition, the City Council passed a \$4.2-million general obligation bond to construct the City Service Center, paving the way for private sector investment around Circus World by minimizing the investment risk.

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SPRINGFIELD, OH—New Hope and New Cancer Center on Old Brownfield

In 2002, a Springfield, OH real estate developer took notice of an old scrap yard in downtown Springfield, OH, long idled and forgotten, and perceived as an eyesore. In actuality, the lot sat on a majestic bluff overlooking a large, green, community park — and the developer knew the spot was prime. However, instead of pursuing the most typical, easiest, profit-driven development approach, Peter Noonan of Midland Properties, launched an idea that is now bringing new hope to the community and many of its citizens — a regional cancer treatment center. And, because the City of Springfield was willing to bear the risks and costs of cleanup at the site, the project was started, and finished, in record time.

Prior to this project, the closest cancer treatment center was Ohio State's James Cancer Center, located in Columbus, more than an hour away. It was surely an inconvenience for those in need of treatment, but until a population sampling was done, it was not known just how

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many people were affected. A survey estimated that 1 out of 100 people in the Springfield area will experience cancer, or over 1,500 out of a population of only 150,000, by the year 2006. Residents were traveling to Columbus for care, some making the trip every day. The Springfield Cancer center brought urgently needed help to the Springfield Metropolitan area.

Through the innovative ideas and sustained commitment of the City staff and through strong public-private and non-profit partnerships, Springfield was able to develop the cancer center. Developer Noonan worked with The Community Hospital and Mercy Health Partners to begin planning the project for the site, but the plans stalled due to the tremendous potential

costs and responsibilities of an environmental cleanup. It was at this point that this so-far typical brownfield site developed into a more unique situation.

City of Springfield officials grasped the possible advantages of the relationship, and were eager to make both the medical facility and the cancer center a reality. So the city stepped in to acquire the site, and became responsible for the risks of liability, cleanup, and brownfields fundraising. The city signed a redevelopment agreement with the hospital partnership, and agreed to take charge of the grant applications and brownfield cleanup. After the agreement was signed, Hull & Associates, Inc., a consulting partner to the city for 9 years, was brought in to begin work on site assessments, and remedial activities through Ohio EPA's Voluntary Action Program (VAP) Memorandum of Agreement (MOA) Track. The Hull team also completed demolition, site planning, and site engineering for new construction. The goal was to get the site to a clean, workable standard, at which point it would be turned back over to the hospitals and Midland Properties to begin work on the cancer center.

Opening the center by August 2004 was an idealistic timeframe, but each party involved was dedicated to the outcome, and the Springfield Regional Cancer Center treated its first patients on August 2, 2004. The center currently has four oncologists on staff. The building is an alluring mix of architectural styles, combining H.H. Richardson's penchant for copper roofs, limestone facades and grand archways with Frank Lloyd Wright's passion for nature. Both Richardson's and Wright's styles feature prominently in Springfield's downtown area, and the partnership recognized the significance of these architectural influences.

The Springfield cancer center is unique, not only because of the path taken to revitalize the site and build the center, but because of what it offers. There is a community resource center on the grounds, an American Cancer Society office, a wig shop, self-image consulting, and counselors for patients and their families. The center provides more than just medical treatment. It is a full service facility, dedicated to helping the residents of the Springfield area throughout their entire healing process.

For more information, contact:

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CLEARWATER, FL—From Health Risk to Health Services Provider

The North Greenwood neighborhood sits less than a mile north of downtown Clearwater, Florida. The area is an African-American enclave whose history reaches back to the earliest years of the 20th century. The neighborhood began to decline in the 1960s. But beginning in the late 1980s and continuing through the 1990s, led by civic and community leaders and supported by the City of Clearwater, the neighborhood began to turn itself around. In 1995, a retired nurse and neighborhood resident founded the North Greenwood Health Resource Center, at the time consisting of two refurbished apartments. In 2003, construction began on the new North Greenwood Health Resource center complex, on the site of a former gas station and garage that had been long vacant.

The brownfield property was purchased by the City of Clearwater with state brownfields funds. The Florida Department of Environmental Protection and the City of Clearwater entered into a Southwest District Brownfields Site Rehabilitation Agreement (BRSA) and worked cooperatively to see the project through its remediation process. The City carried out site assessments, which found excessively contaminated soil. A waste oil underground storage tank (UST), a 4000-gallon UST, a 2000-gallon gasoline UST, 500-gallon kerosene UST and a hydraulic lift were excavated and removed in March 1999. A concrete underground grease trap was also found during excavation. More than 400 tons of petroleum-contaminated soil were removed and transported to a thermal treatment facility.

As part of the city's environmental justice plan, representatives of North Greenwood participated in redevelopment planning and voted unanimously for the city to lease the property to the nonprofit clinic. On March 18, 2000, ground was broken for the Greenwood Community Health Resource Center. Now, the North Greenwood neighborhood has a new health facility offering immunizations, physicals, tests and screenings, flu shots, and counseling to residents of the neighborhood

This project shows how public support of basic services can be done in a way which also allows communities to meet important brownfield cleanup and revitalization objectives. In North Greenwood, it was a community voice and visionary who recommended that City officials lease the former gas station site to the Greenwood Community Health Resource Center for \$1 a year for 30 years. The State of Florida provided \$200,000 to help pay for the cleanup of underground storage tanks and removal of contaminated soil. Another \$320,000 in state funds paid for construction of the new facility. The State also provides support for the clinic's operating costs.

In short, the Greenwood Community Health Center is a model clinic designed to assist low income residents in the Clearwater area in obtaining adequate health care screenings and education. It is a vital example of how revitalization of a former brownfields can enhance a community in a way that extends far beyond economic value.

For more information contact:

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TRENTON, NJ: City Recycles Abandoned Gas Stations to Meet Community Needs

The City of Trenton has taken advantage of the prime locations of abandoned gas stations to create new public facilities and community amenities in underserved neighborhoods. In Trenton's West Ward, a primarily residential area along the Delaware River, the City purchased a vacant 1.5 acre property, formerly the site of a local newspaper, pizzeria, and auto service station, for redevelopment. Although two underground storage tanks (USTs) were removed from the service station site, the City encountered two other unexpected waste oil tanks. The city removed the USTs, cleaned up the soil contaminated by leaks, and investigated the site to identify any residual contamination. In all, 95 tons of contaminated soil were removed from the site.

Funding from the EPA under its "USTfield Revitalization" initiative helped Trenton defray cleanup expenses and leverage state funding from the New Jersey Hazardous Discharge Site Remediation Fund (HDSRF) for environmental investigation at the site.

In the Fall of 2001, buildings on the site were demolished. Construction of a new firehouse began in was completed in 2002. The firehouse was important to this neighborhood, which until then was suffering from unacceptable emergency response times.

In addition, Trenton has redeveloped three other USTfield sites for community use:

- ▶ **The West Ward Senior Center:** During the redevelopment of this site as a senior center, an environmental investigation associated with an oil collection pit revealed two 550 gallon underground waste oil tanks. The state environmental manager working on site ordered that the tanks be removed immediately. Federal USTfields funds covered the cost of this emergency removal, which otherwise could have significantly delayed the project until other funding was obtained. Now the site is converted to a new senior center, which is providing numerous services to the City's senior population.

- ▶ **Martin Luther King Boulevard:** This site was an old corner gas station that raised environmental justice concerns in a low income neighborhood along Trenton's Martin Luther King Boulevard. Over 1,000 tons of contaminated soil, five USTs, and two buried waste oil drums were removed from the small 2,000 square foot site. The cleanup was a part of the City's larger redevelopment plans for the area that includes new housing, a new school, and improvements to the neighborhood park. A nearby site owner is redeveloping the USTfield site into a parking lot to support neighborhood businesses.
- ▶ **Canal Plaza:** This vacant lot is a former dairy and important part of the City's past and future. It is situated near the Delaware and Raritan Canal which runs through Trenton, near a new affordable housing development (built on a former brownfield), and across the street from Battle Monument Park, a historic site commemorating the Battle of Trenton. This neighborhood was also the center of civil rights rioting in the City in the 1960s. During an environmental investigation of the property, an unexpected, 1,000 gallon UST was uncovered. The tank and 150 tons of contaminated soil have since been removed. The site has been redeveloped by a faith-based developer into market rate housing—the first market rate housing constructed in Trenton in years—as well as community open space.

In each of these four cases, aggressive cleanup action, such as tank and soil removal, have improved the marketability and transformation prospects for the target sites. The City of Trenton has gone out of its way to do everything possible to ensure that cleanup is complete.

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Recreational Facilities

Many communities have begun to look at brownfields as great places to locate new recreation facilities and help create more livable communities. Nationwide, residents are asking for more and more recreation space. However, the cost of acquiring large tracts of real estate to accommodate such uses can be prohibitive to many local governments. Cleaning up abandoned or underutilized industrial areas can often be a cheaper alternative than acquiring sites on the urban fringe for recreational uses—and these sites are often more accessible to more people.

WYANDOTTE, MI: From Chemical Wasteland to Fore! on the Shore

Private industry worked closely with state and local officials in Wyandotte, Michigan to transform 84 acres of vacant, contaminated industrial land into a waterfront park and golf course. The project has helped the community reclaim its riverfront and spur revitalization in the surrounding area.

Wyandotte's location along the Detroit River just north of Lake Erie and on top of one of Michigan's largest veins of underground salt made it a prime location for heavy industrial development. Since the late 1800s, various companies have manufactured chemical products like caustic soda, chlorine, cement, dry ice, and sodium bicarbonate. Many of these companies were consolidated under the BASF Corporation in 1969.



BASF continued to operate various chemical facilities in Wyandotte until 1980, when it began phasing out and consolidating its factories. One of the sites it sought to close was the South Works site, an 84-acre property along the Detroit River. While the location and size of the site were attractive to potential development, a century of chemical manufacturing left the soil and groundwater contaminated with mercury, polynuclear aromatics, and chlorinated hydrocarbons. Based on a review of the contamination at the site, the State of Michigan initially recommended that the site

be capped and that future development be prohibited.

Meanwhile, the City of Wyandotte was seeking to reclaim public access to the riverfront and saw the potential redevelopment of the South Works site as an integral component of that effort. City officials were able to convince the State to work with BASF to develop a plan for preventing migration of the groundwater and allowing reuse of the site. By removing the requirement that the site be paved over, the State, City, and BASF chartered a course for a redevelopment of the site that would meet the community's needs.

Together BASF and the community decided to dedicate the site to recreational uses. The northern third of the property would become a riverfront park and the southern two thirds would be turned into a links style golf course. BASF leased the site to the city for one dollar per year and the Michigan Coastal Management Program provided \$25,000 to develop a design plan for turning the site into a recreational area.

Preparing the site for the new use required stabilizing the shoreline and enhancing wildlife habitat through soft engineering techniques, which are less expensive and more aesthetically pleasing than breakwalls or steel sheet piling. To complete the project, BASF contributed \$2 million, DNR provided \$1.5 million in state recreation grants, and the City of Wyandotte contributed \$4.5 million from its tax increment financing program.

Now complete, the Wyandotte Shores Golf Course property includes a park with a riverfront walkway and observation decks, picnic areas, jogging trails, and a rowing club. The site's redevelopment is linked to the broader revitalization of Wyandotte, sparking other projects and economic growth in the area. While the entire project cost approximately \$5.2 million in public funds, user fees cover the ongoing operation and maintenance of the golf course.

More importantly, the community has reclaimed a portion of its waterfront and is looking to keep it in good environmental health. The City and its partners have adopted an action plan to prevent potential threats to natural resources from the use of pesticides, fertilizers, fuel, and

Now complete, the Wyandotte Shores Golf Course property includes a park with a riverfront walkway and observation decks, picnic areas, jogging trails, and a rowing club.

hazardous materials on the golf course. As a result of this effort, Wyandotte Shores has received the Michigan Turfgrass Environmental Stewardship Program (MTESP) seal of approval. MTESP is a partnership between the State, Michigan State University, and golf course owners to reduce the potentially negative environmental impacts of golf courses.

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WILMINGTON, NC: Building a Soccer Field of Dreams on a Landfill

The Cape Fear Youth Soccer Association (CFYSA) in Wilmington, North Carolina recently sought room to build soccer fields to accommodate the community's surging interest in youth soccer. Their search ended with the purchase of a former landfill that will become a regional soccer park.

Over the last decade, CFYSA saw participation increase from 800 kids on 46 teams to 4,000 kids on more than 200 teams. As a result, adequate field space became a major issue. Teams play on fields spread throughout Hanover County that were shared with schools and the parks and recreation department. CFYSA had to compete for field space with other worthwhile uses and the fields were often overused and in disrepair.

Due to the scarcity of remaining large tracts of open space suitable for athletic fields in Hanover County, land prices were exorbitant and sites were not centrally located. The least expensive tract was more than \$5,000 per acre and was located in the northern end of the County. However, CFYSA learned of the availability of the 65 acre former Flemington Landfill site through the North Carolina Brownfields program. The site had been idle for twenty years, had caused some contamination of the groundwater, and was a significant community eyesore.

The site was significantly cheaper than other available properties (\$400 per acre). It is ideally located near the City of Wilmington's riverfront with easy access to major transportation corridors, and, unlike much of the land in the area, 100 percent was usable because there are no wetlands on site.

When CFYSA first considered the Flemington site, it had the typical concerns and reservations about contamination of the soil. However, significant tests of the soil conducted over the years by state and local agencies, and the North Carolina Brownfields program alleviated their concerns. In addition, the CFYSA has worked closely with the state Department of Environment and Natural Resources to develop a plan to ensure that any landfill contaminants are capped and isolated so they pose no danger to human health or the groundwater.

When fully developed, the Cape Fear Soccerplex will contain 14 competition fields, an office/conference building for the CFYSA, a concession building, maintenance facility, first aid facility, picnic shelters, playgrounds, parking for 800 vehicles, and a 1.5 mile jogging trail. The Soccerplex will host tournaments throughout the year and local officials anticipate a \$4-7 million positive impact on the local economy per tournament.

State Representative Danny McComas, the primary sponsor of the state of North Carolina's Brownfields legislation said, "This shows what can happen when common-sense legislation is enacted. This project is a result of a collaborative effort between environmentalists, regulatory authorities and business." In other words, this project was a big score, and a win-win for all involved.

CFYSA will begin construction and remediation in 2004/05 and expects to begin play in 2005.

For more information, contact:

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910-392-0306

Sports Stadiums

Many communities have used new sports stadiums to act as a catalyst for community revitalization. These projects often lead not only to the cleanup of large, formerly abandoned and potentially contaminated sites, but also a domino effect of stimulating the cleanup and revitalization of surrounding brownfields. This has proven to be a successful strategy for both large and small cities as these profiles of Bridgeport, CT; Fontana, CA; and Dallas, TX demonstrate.

BRIDGEPORT, CT: From Brownfields To Ballparks

In 1990, the former Jenkins Valve site was a prominent symbol of Bridgeport's economic decay. The Jenkins Valve property was a decaying eyesore located at the City's main gateway that "welcomed" visitors arriving on the City's ferry, at the City's train terminal, and in cars traveling on the Interstate 95 overpass. The site has since been redeveloped with a new minor league ballpark and municipal arena that is sparking the revitalization of the City's waterfront and downtown area.

The Jenkins Valve Corporation was one of Bridgeport's largest employers and one of the world's largest manufacturers of industrial valves. However, like many of the northeast's leading industries in the 1980s, Jenkins Valve closed its doors and left behind an abandoned 18 acre site that was burdened with industrial contamination. The closure was part of a citywide loss of 50 percent of its manufacturing base.

Located at the nexus of the transportation hub of southern Fairfield County, this site had the potential to become a regional attraction, due to its proximity to transportation. Within a five minute walk were trains, Interstate 95, the bus terminal and the ferry. Bridgeport developed a multi-faceted plan to fill a niche in the regional market. The plan included a minor league ballpark and municipal arena, supported by a new Intermodal Transportation Center, with an emphasis on bringing business back into the City's central business district.

In 1994, the City used a \$200,000 EPA brownfield pilot assessment grant to evaluate the extent of contamination at the site. That initial investment allowed the city to leverage an additional \$2 million from the State of Connecticut and \$11 million from the Zurich Re Corporation to clean up and redevelop the site.

Today, visitors to Bridgeport are truly welcomed by the state-of-the-art Harbor Yard sports complex, which includes a beautiful new 5,500 seat baseball park for the independent Atlantic League's Bridgeport Bluefish, an indoor ice skating rink, an arena, and a museum. The \$53 million Arena at Harbor Yard was built next door to the baseball stadium and serves as a 10,000 seat multi-purpose event arena. The arena is home to the Bridgeport Sound Tigers professional hockey team (a minor league affiliate of the NHL's New York Islanders) and the Fairfield University Stags men's and women's basketball teams. Together the two venues form the Regional Sports and Entertainment Complex at Harbor Yard. The project has been a tremendous economic success, attracting hundreds of thousands of visitors each year and creating 700 new jobs.

The City's success with the Jenkins Valve site has also acted as a catalyst for the cleanup and redevelopment of additional brownfield sites and led to partnerships with multiple federal agencies to help revitalize Bridgeport's waterfront. The waterfront area will eventually include related restaurants and retail shops in and around the complex.

The City is poised to further expand business development while utilizing its transportation infrastructure to reduce local highway congestion. The City's older downtown department stores are becoming housing for artists, and will help to support the emerging restaurants and stores, as well as supporting the newly restored Playhouse and Cabaret Theatres.

Once a symbol of the City's decay, today the former Jenkins Valve site is a symbol of Bridgeport's revival and its commitment to investing in the revitalization of brownfields.

For more information, contact:

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Once a symbol of the City's decay, today the former Jenkins Valve site is a symbol of Bridgeport's revival and its commitment to investing in the revitalization of brownfields.

FONTANA, CA: California Speedway Created by Speedy Cleanup

The Kaiser Steel Mill site, located 50 miles east of Los Angeles in Fontana, California, was transformed into a world-class speedway through the efforts of a strong business partnership and the cooperation of California's Department of Toxic Substances Control (DTSC).

The Kaiser Steel Mill began operations in 1941 and was critical to the U.S. war effort in WWII, turning out a new naval ship every six days. However, when the company went bankrupt in 1983, it left behind an 880 acre brownfield with a variety of contaminants produced by steel production, ore processing, and coke manufacturing. The size and complexity of the site, as well as the absence of any liability relief for prospective purchasers, deterred redevelopment for many years. Nevertheless, as it emerged from bankruptcy, the Kaiser Corporation entered into a consent agreement with the state of California to assess and clean up the former steel mill site. The company believed that redevelopment of the steel mill could be used to pay for the environmental investigation and remediation.

To help encourage redevelopment of the site, California enacted legislation in 1992 to waive liability for anyone who provided financing for removal and cleanup, provided they entered into an enforceable agreement with the state to conduct all removal and cleanup actions. A year later, Roger Penske, Inc., became interested in the site for a two mile, tri-oval speedway, which required about 500 acres. In 1994, Kaiser and Penske developed a plan in which Kaiser would clean up the site, secure government approval, and turn over 475 acres of the site to Penske in exchange for financing, operation expertise, and 12 percent of Penske's stock.

Under the provisions of a 1994 law, Kaiser applied to the State to have a single lead agency designated to oversee the cleanup of the site. The California DTSC oversaw the remediation,

provided oversight, and streamlined the approval process, committing the resources and staff needed to prepare the site for reuse in just five months.

The California Speedway hosted its first NASCAR Winston Cup Series Race in June, 1997 and currently plays host to six major touring series, including the NASCAR Winston Cup Series, NASCAR Winston West Series, and CART FedEx Championship Series. It employs 1,200 people, generates \$2.5 million in annual tax revenue, and is responsible for \$125 million in economic activity each year. It is also helping to revitalize the area surrounding this formerly contaminated site. By 1996, more than \$1 billion in construction — including a retail mall, convention center and airport terminal — was underway within a five-mile radius of the speedway.

By working together, federal, state, and local officials and business leaders were able to transform this large, contaminated property into an economic engine for the community. The State and Kaiser continue to work together to clean up and redevelop the remainder of the former steel mill site.

For more information, contact:

Southern California Cleanup Operations Branch — Cypress
 Department of Toxic Substances Control
 714-484-5300

DALLAS, TX: American Airlines Center is Big Brownfields Victory for Big D

The home of the NBA's Dallas Mavericks and the NHL's Dallas Stars, the American Airlines Center is the centerpiece of the Victory Project, a 72-acre brownfield redevelopment that has become one of the country's most successful cleanup stories and has helped revitalize Dallas's central business district.

The Victory Development is located on a former industrial area with the centerpiece American Airlines Center located on a portion of an old electric power generating plant site that began operating in the late 1800s. Operations and facilities at the power generating plant included petroleum product storage and delivery facilities and cooling water reservoirs and



towers. Maintenance activities over the years resulted in petroleum hydrocarbon, solvent, metals, and asbestos impacted soil. Other environmental concerns included: (1) historic filling of the area with industrial and municipal solid waste, which resulted in metals and polynuclear aromatic hydrocarbon (PAH) impacted material; (2) leaking petroleum storage tank sites, which resulted in petroleum hydrocarbon affected soil and groundwater; (3) a grain elevator, which resulted in pesticide impacted construction debris; and (4) a

former railyard maintenance facility and turntable/switching area, which resulted in petroleum hydrocarbon impacted media.

Although a century of industrial use had left behind environmental concerns, these issues did not deter developers Ross Perot, Jr. and Tom Hicks. They recognized the potential of this ideally located brownfield and the opportunity to reshape the quality of life and landscape of downtown Dallas. Perot and Hicks negotiated a public private partnership with the City as well as the individual landowners, including Texas Utilities.

Extensive environmental investigation was conducted to identify and delineate environmental concerns on the portion of the site where the arena was to be built, the former

cooling ponds for the electric power generating plant. Environmental concerns included elevated metals concentrations in fill materials and railroad track ballast, pesticides, asbestos-containing materials and hydrocarbons in groundwater. After a \$12 million cleanup, the American Airlines Center, a 840,00 square-foot, indoor sports and entertainment venue was constructed and opened July 28, 2001 with an Eagles concert. The project was a successful public private partnership in which the City of Dallas provided \$125 million for infrastructure improvements in order to leverage the \$425 million invested by the owners. The cleanup and construction activities created 2,400 jobs and the American Airlines Center, once in operation, created approximately 550 permanent jobs.

This project changed the face of downtown and serves as the venue for the adjoining Victory Development which began in March 2004 with the construction of the underground parking structure for the \$100 million, 31-story tower, which will house the long anticipated Dallas Victory Hotel and 70 condominiums. Proposed future mixed use development includes retail, residential and commercial.

The City of Dallas was designated as an EPA Brownfield Showcase Community in 1998. "The Victory Project, including the American Airlines Center, is the quintessential example of what the Brownfields Showcase program is all about — partnerships," said Ann Grimes from the City of Dallas Economic Development Department.

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Educational and Cultural Institutions

Many communities have found success by building new cultural and educational attractions on former brownfield sites. The facilities provide economic benefits, attract tourists, and provide enriching new opportunities for residents.

ERIE, PA: Former Power Plant Site Fuels Waterfront Museum & Revitalization

The contaminated former site of a coal fired power plant that supplied power to downtown Erie and northwest Pennsylvania for over 80 years is now home to the Erie Maritime Museum, the state's first new museum to open in over two decades. The waterfront site provides breathtaking views of Lake Erie's Presque Isle Bay, the largest sheltered bay on the Great Lakes, and also includes a public library, civic auditorium, and marina, with plans for a hotel with office, retail, and residential facilities.

GPU Energy's front street station reached the end of its economic viability in 1989 and was scheduled to be decommissioned. The site included a power plant, electric substation, 120 foot smokestack, fuel tanks, ash dewatering ponds, and other related facilities. Eight decades of use left behind a variety of environmental contaminants, including unburned coal, asbestos, heavy metals, and petroleum from an oil spill.

GPU Energy began searching for alternative uses for the site's 11 acres, but because the land was zoned industrial it had limited market value. As the largest privately owned, undeveloped site on Erie's waterfront, the community and GPU Energy were concerned that letting the site sit idle would hinder an already underused waterfront and stagnant local economy. The company believed that the picturesque waterfront location near downtown could become the centerpiece for waterfront revitalization, to create jobs and act as a catalyst for economic growth. GPU decided to work with local, state, and federal agencies in a public private partnership to clean up and redevelop the site.

The Erie Economic Development Department also recognized the location's potential and sought to use the site as a catalyst for waterfront revitalization. GPU conducted a joint study with North American Realty Advisory Services of New York City to create a reuse plan and marketing strategy for stimulating economic development along the waterfront. The realty group performed a comprehensive study, including market research and development regulations, which found that redevelopment could offset the costs of demolition and remediation.

In 1991, GPU Energy agreed to donate a portion of its property for a maritime museum and cultural complex and began working with the Pennsylvania Department of Environmental Protection to clean up the site under the State's new Land Recycling Program, established in 1995. The original joint venture agreement involved GPU Energy providing the land and the developer supplying the capital and expertise, with both companies sharing the profits from the project. However, because that arrangement would violate the 1935 Public Utility Holding

Company Act (PUHCA), GPU sold portions of the property to the developer to offset the remediation costs, and the developer provided the financing, construction, and management.

Demolition and cleanup ensued from 1991 to 1993, and construction and development began in 1995. Most of the remediation cost involved asbestos removal and remediation of a three acre, 50 foot high coal pile. In addition, a 20 year old oil spill on the former boat club portion of the site was treated with a two year bioremediation system that significantly reduced concentrations of BTEX and other petroleum constituents. Although the grain elevator site was contaminated with heavy metals, a risk assessment determined that physical controls on limited areas of the property would protect human health and the environment without extensive excavation or remediation.

The U.S. Army Corps of Engineers undertook the most extensive construction work, dredging the bay to an acceptable depth to allow entrance to the berthing area, stabilizing a new shore line, and excavating the berthing area itself. Once the physical structure of the berthing area was built, the remaining retaining wall was breached, allowing the water to fill the berthing area without damaging the new library and museum structures.

The 92,000 square foot library attracts 4,000 visitors per day. The old turbine building was transformed into a Maritime Museum that vividly illustrates the region's rich heritage and is home to the U.S. Brig Niagara, an authentic replica of Pennsylvania's official flagship which fought in the Battle of Lake Erie in the War of 1812. The 8.5 acre Liberty Park offers walking and biking trails, playgrounds, and a 150 seat dockside amphitheater, all with views of Presque Isle. In addition to these amenities, the site has spurred \$95 million in highway and infrastructure improvements, as well as other growth in the area. The redevelopment has generated 500 new construction jobs, with more expected as the waterfront revitalization effort continues. Plans are underway for a convention center, restaurant, and waterfront condominiums.

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MEADVILLE, PA: Old Textile Mill Becomes Outdoor Learning Center

A watershed area in Northwest Pennsylvania, about 40 miles from the Ohio border and Lake Erie is arguably the most ecologically significant waterway in Pennsylvania. French Creek, a 117 mile stream, contains more species of fish and freshwater mussels than any other comparably sized stream in all of Pennsylvania, and possibly the entire northeastern United States.

Over the past two decades, researchers have shown that almost all species that have historically thrived in the Ohio River basin are still flourishing in French Creek. Thus, French Creek remains vitally important to the ecological and environmental quality of northwestern Pennsylvania for its unique high water quality and biodiversity.

Near Meadville, the French Creek flows by an abandoned textile mill. For fifty-five years, the site was home to a variety of synthetic textile manufacturers. The American Viscose Corporation operated on 305 acres of the site for thirty years and sold the property to FMC in 1963. The FMC operation became the largest industrial facility in the area, employing over 4,000 people and burning 400 tons of coal a day for electric and steam power production. The most recent site operator, Avtex Synthetic Fibers, purchased the site in 1972 and closed its doors in 1985.

Avtex abandoned 305 acres of property and approximately 1.4 million square feet of empty industrial building space.

In 1989, the Crawford County Redevelopment Authority purchased the site with the hope of creating an industrial park. The site was badly degraded, however, and needed substantive clean up. Work began with removal of asbestos from the spinning machines. In 1990, the Pennsylvania Department of Environmental Protection (DEP) declared the property a state Superfund site. This was due to deposits of ash left from coal burning, disposed oil, and other pollutants in the soil. The DEP remediated the site by excavating and containing the contaminated soils and then capping the area with clean soil at a cost of \$7 million.

The previously abandoned site now has more than 1.4 million square feet of renovated building space, which is home to more than 22 businesses that employ over 1,000 people. In 1998, the Crawford County Redevelopment Authority offered roughly 177 acres behind the complex to create the French Creek Outdoor Learning Center. This Center provides environmental education, fosters stream conservation, conducts science and research activities, works with local governments on water quality protection, and provides recreation in the Creek watershed.

Development Authority committee members considered the site to be a perfect place for the Outdoor Learning Center because students and teachers can explore the political, economical, and philosophical complexities of environmental management and cleanup at this

Development Authority committee members considered the site to be a perfect place for the Outdoor Learning Center because students and teachers can explore the political, economical, and philosophical complexities of environmental management and cleanup at this former hazardous waste site.

former hazardous waste site. The Learning Center is a critical part of the French Creek Project's preservation efforts, and has involved a generation of children in "hands-on" activities that bring environmental education to life in the hope that students will apply these lessons to their everyday actions.

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EVANSTON, WY: Abandoned Railyard and Roundhouse is Integral Part of Community Again

The Evanston Roundhouse and Railyards complex was built by the Union Pacific Railroad between 1917 and 1918 to replace an 1870s stone roundhouse that became too small for modern locomotives. The complex includes a roundhouse for maintenance of steam engines, a machine shop for railroad vehicle repair and service, and a powerhouse to produce energy for the site. As the needs of the railroad changed, the complex was used in later years as a reclamation facility for Union Pacific.

The site was an integral part of the community and economy in Evanston for over 50 years, but closed its doors in 1971 and soon after transferred ownership of the property to the City. The site was then leased by Lithcote Corporation and Union Tank Car for tank car repair and



painting until 1998, when the property was again abandoned.

However the second closure at the complex did not catch the City by surprise. City leaders and local preservationists had been planting the seed for redevelopment of the site for nearly a decade prior to Union Tank Car leaving the site. The City established a non-profit organization to raise awareness and funding for future development of the site.

With the assistance of private donations, a grant from the Wyoming Department of Transportation, and a HUD Community Development Block Grant, the City launched a community visioning and planning process. When the site was finally vacated by Union Tank Car in 1998, the City had a plan in place and was ready to go. Evanston was awarded a brownfields pilot grant from the EPA to conduct an environmental assessment of the site.

After five years, the assessment of the site has not revealed any significant contamination. With the assistance of Wyoming Department of Transportation Grants, private donations, Renewal Ball funds, Community Development Block Grants, and assistance from the Union Pacific Foundation, a new roof was placed on the machine shop and half of the roundhouse. Renovation of the machine shop portion of the site is complete and the facility is now open, fulfilling the need for a community center for conventions, public and private gatherings, concerts, and community events. Meanwhile, the Evanston Historic Preservation Commission is seeking to list the Roundhouse and Railyards property on the National Register of Historic Places for its national significance. The site is already on the state historic register. Listing the site on the National Register would make it eligible for a wider range of grant opportunities. Use of the remaining structures in the complex has not yet been determined, but commercial use has been considered, as well as redevelopment of the site as the location for an expanding City Hall.

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Large Scale Commercial

The cleanup of brownfields has empowered many communities to attract new, large scale commercial projects to their communities. These projects often provide much needed new services to underserved areas and generate significant tax revenues for the local government.

WATERBURY, CT: Adding Polish to the Brass City

The closing of the historic brass mill industrial complex in Waterbury, Connecticut in 1986 not only marked the end of an era for the brass capital of the world, but also left behind a blighted, economically depressed brownfield that was hurting the City's economy. However, the site has been transformed into the Brass Mill Center, a 1.2 million square foot regional shopping mall that has helped spur the revitalization of Waterbury.

For nearly 200 years, the brass mill site along the Mad River was one of the largest industrial facilities in the Northeast and home to three major brass factories, including the Scovill Brass Works, the largest brass manufacturer in the United States. This concentration of brass manufacturers earned Waterbury the moniker of "Brass Capital of the World" and the "Brass City." However, as competition increased following World War II, Waterbury's brass mills began to decline and by the mid 1980s the last of the big three, Century Brass, closed its doors.

When the brass mills closed, an environmental assessment of the 90 acres of properties they left behind revealed numerous contaminants, including petroleum, PCBs, solvents, and heavy metals and buildings in need of demolition. After several unsuccessful attempts at industrial reuse, the City of Waterbury developed a comprehensive plan for cleaning up the site and preparing it for redevelopment, in partnership with the Naugatuck Valley Development Corporation, Brass Center Limited, Connecticut's departments of Economic and Community Development and Environmental Protection, the U.S. Department of Defense, and the U.S. Environmental Protection Agency.

As cleanup of the site moved forward, the site's location along a major interstate and the eastern periphery of the City's central business district attracted the attention of a major national shopping center developer (the Homart Development Company, now known as General Growth Properties) who proposed to build a new retail mall and center, the Brass Mill Center and Commons.

Completed in September 1997, the project has generated 1600 construction jobs and well over 400 new retail jobs, increased the City's tax revenues, and helped spur further redevelopment in downtown Waterbury. The original development created four anchor stores and approximately 150 individual retail stores. In addition, a river walkway now connects the mall and commons to the downtown and a nearby park, and the interactive Timexpo museum has opened in the two former administrative office buildings of the restored mill complex. In all, this \$170 million project has helped reestablish Waterbury as a regional retail destination, and will help diversify its economic base and promote a more sustainable economic future for the City.

For more information, contact:



Naugatuck Valley Development Corporation
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ELIZABETH, NJ: Retail Success at a Former Landfill

The Elizabeth Metro Center ranks as one of New Jersey's largest brownfield redevelopment projects. Originally the site of an industrial and municipal landfill, this 166-acre property was abandoned in 1972 and lay dormant for two decades leaching harmful amounts of PCBs, paint sludge, and lead into the soil and nearby Newark Bay and Arthur Kill River. Thanks to strong partnerships between public and private stakeholders, this property is now home to a 1.5 million square foot outlet shopping mall, 20 screen Loews theater, innovative job training facility, and two Marriott Hotels. The project has been a catalyst for revitalizing the City of Elizabeth. It generates \$2.5 million in annual revenues and has created more than 5,500 permanent jobs and 1,700 construction jobs. In 2001, the Elizabeth Metro Center received a prestigious Phoenix Award for its innovative approach to brownfields redevelopment.

As a result of the contamination and the property's meager tax revenues, the Elizabeth City Council declared the landfill site "blighted" in 1987. Despite this designation, the property remained attractive to real estate developers due to its close proximity to Newark Airport and New York City. In 1992, the OENJ Corporation, a private development group, acquired the Elizabeth landfill site and began plans to clean up and redevelop the property. In addition to the contamination, OENJ faced major obstacles to development, including the lack of adequate infrastructure to support a large scale commercial project. Because the site was originally a landfill, there were no sewers, roads or utilities, and a 60-foot wide, 4,800 foot long stormwater ditch bisected the property. In addition, OENJ faced permitting issues associated with filling a series of degraded wetlands in the ditch.

To address these development obstacles, OENJ worked closely with local, state, and federal government agencies, non-profit organizations, and community groups. OENJ established task forces to address complex permitting and infrastructure requirements. Meeting once a month, these groups were able to simultaneously submit federal, state, and local permit applications, which enabled OENJ to receive all necessary permits in one year, instead of the usual three. The task forces also secured funding to improve local roads and construct a new interchange, which offers direct access to the site from the New Jersey Turnpike. Among those involved in the task forces were the Regional Plan Association (RPA), Union County Economic Development Corporation, City of Elizabeth Department of Transportation, and the New Jersey Department of Environmental Protection (DEP).

With funding and permits secured, OENJ moved forward with its redevelopment plans. To prevent pollutants from leaching out of the landfill, OENJ capped the area with recycled materials from around the region, including construction and demolition debris, ash, and crushed glass. The development group also incorporated approximately 100 million cubic yards of contaminated dredged material from the Newark Bay that was treated using cement and other pozzolanic reagents. This reuse provided the Port Authority of New York and New Jersey with a location for material that was deemed unsuitable for ocean disposal.

In 1998, OENJ sold 125 acres of the brownfield to Glichmer Realty Trust, a nationally-renowned retail center developer. Approximately one year later, in October 1999, a 1.5 million-square-foot outlet mall opened, which has brought new life to the former industrial area. The Jersey Gardens Mall is home to more than 200 stores and restaurants, making it New Jersey's largest outlet shopping center. Over 15 million people have visited the complex, generating more than \$2.5 million in revenue for the City of Elizabeth. The project has increased property tax revenues by more than \$3 million a year. More than \$118 million has been invested in transportation and sewage infrastructure and approximately \$20 million has been spent on

remediation of the site. In exchange for filling the degraded wetlands, OENJ created 10 acres of high-quality wetlands along the Newark Bay, providing tidal habitat for the endangered Least Tern.

OENJ Corporation retained 40 acres of the Elizabeth brownfield site, including 20 acres of upland waterfront property that overlook the New York City skyline and Statue of Liberty. The development group is currently developing a 700,000 square feet office park for retail and office use. In addition, the group plans to implement light rail access to Newark International Airport and a ferry service to Manhattan.

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Elizabeth, NJ
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ST. LOUIS, MO: Gateway to Brownfields Revitalization

The St. Louis Commerce Center at the Dr. Martin Luther King Business Park, now home to major businesses including Gateway CDI, Killark Electrical Products, Swank Motion Pictures and McLeod USA Telecommunications, was the City of St. Louis' first federal brownfields pilot project. This commercial success sits on what used to be sixteen blocks of the North Side's closed foundries, plating facilities, chemical companies, dry cleaners, gasoline stations and salvage yards. Today, the properties have been transformed into a thriving center of investment and job growth.

Environmental concerns were at the heart of this redevelopment project, and the potential contamination associated with the land's historic use necessitated numerous city-funded environmental assessments. Starting in 1993, the St. Louis Development Corporation (SLDC), was able to secure \$200,000 in EPA funds for site investigation. To head off the anticipated

“[t]he site was an environmentally contaminated combat zone...[b]urned-out buildings with environmental issues, six blocks crisscrossed with utilities and old alleys, and we had to pay for remediation and utility relocation. It was a mess!”

—Steve Brown, President, Balke Brown Associates

costs linked to UST-related releases, the SLDC registered all former gas stations in the State of Missouri's Petroleum Storage Tank Insurance Fund. Other remediation and demolition expenses were covered by funds escrowed from the proceeds of the sites' sales.

Balke Brown Associates, a developer of commercial and office/industrial buildings, purchased 20 acres. The asbestos, lead and corroding underground storage tanks discovered at the site presented problems for remediation. Balke Brown President Steve Brown, in a March 2003 issue of St. Louis Commerce Magazine, remarked that “[t]he site was an environmentally contaminated combat zone...[b]urned-out buildings with environmental issues, six blocks crisscrossed with utilities and old alleys, and we had to pay for remediation and utility relocation. It was a mess!” Fortunately, the \$2.5 million preparation cost was largely relieved

by a state Department of Economic Development brownfields remediation tax credit of about \$1 million, and a city offer of a comparable amount through purchase price reductions. This was possible after the site was declared eligible for the state's brownfield incentives program and entered into the Missouri Department of Natural Resources' Voluntary Cleanup Program. Balke Brown Associates obtained commercial insurance policies to cap expenses associated with site contamination.

The first completed building, quickly occupied by Gateway CDI, brought an initial 75 jobs and new confidence to the area's business community. Other companies followed suit, including a medical instrument supplier. Over 300 more jobs and \$10 million in future investment was projected for the three building, \$12 million Commerce Center, that encompasses 480,000 square feet of prime warehouse and light manufacturing space. The project had a major positive impact on the surrounding area. Redevelopment of the area sparked considerable investment and growth on adjacent properties, including commitments to the redevelopment of twelve more of the original sixteen city blocks, representing hundreds of jobs and millions of dollars in investment.

Once an environmental liability, the Martin Luther King Business Park area has been successfully converted into a model economic center. The City's formalized Brownfields Program played a central role in these successful revitalization projects, realizing unique opportunities to redevelop urban properties that were once considered unmarketable due to their real or perceived contamination. By targeting specific areas of the City and promoting the use of federal, state and local resources to assist in redevelopment, St. Louis has presented itself as a one-stop resource for developers. The team of technical and economic professionals at SLDC offered personalized services throughout the process, and administered a range of real estate tax abatement, enterprise zone tax incentive, business facility tax credit, and tax increment financing programs. Most properties are eligible for one or more of these incentive programs.

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MINNEAPOLIS, MN: Community Input is Key to Revitalization of Johnson Street Quarry

Community participation was critical to the redevelopment of the former Johnson Street Quarry in Minneapolis into a neighborhood shopping center. By the mid-1990s, the once-active Johnson Street Quarry had become a blighted property, pulling down the entire neighborhood. The community wanted it cleaned up and replaced with a supermarket — part of the community plan and vision — and something that the neighborhood really needed.

A developer worked with the City to establish a redevelopment plan for the site that included a supermarket as an anchor, plus additional large commercial space and room for small service stores. The developer offered to pay twice the current market value for the site if the City acquired the quarry site, cleaned it through the Minnesota Voluntary Cleanup Program, and delivered it shovel ready. Although, this would cost the City significantly more than the purchase price, it decided that the elimination of blight, cleanup of festering contamination in a largely residential area, sales and property tax gains, and 1,700 full time jobs were worth the risk. The City issued tax increment bonds to pay for the cleanup, because of these potential gains.

However, many local residents were concerned that this proposal was too big and would negatively impact their community. A neighborhood task force met monthly in a televised

public forum to discuss project plans with the City and developers, to track progress, and address community concerns. Given the complexity of this deal, the televised task force meetings turned out to have a number of benefits. Those not able to attend the meeting could still follow the process on TV or get videotapes afterward. This gave the developer more comfort against surprises as the project unfolded. It also allowed City officials to document the process and show latecomers what issues had already been addressed.

This project and community involvement process worked well. Neighborhood ideas for access to the shopping center and site configuration were incorporated into the design. The developer realized an unanticipated benefit from the community's comfort with the process when local residents went to the zoning board on his behalf to support a set-back variance that allowed more parking on site. In this instance, neighbors allowed the buildings to be placed closer to the lot line, in exchange for adding attractive brick facing on the building. This added a whole row of parking spaces.

The 420,000 square foot community shopping center opened in 1999. The supermarket, Rainbow Foods, reports that their Quarry store does more sales volume than any in their system of stores. Each of the other stores is at or near the top of all their Minnesota stores, and the Target store is one of the chain's highest volume stores nationally. The developer attributes the success of the project to the community participation in place from the outset.

The Quarry Retail Center has also spurred redevelopment in the surrounding area, creating more than 2,000 new jobs — nearly 20 percent more than projected. It has increased property and sales taxes by more than \$3 million a year, also higher than projected, allowing Minneapolis to recoup its TIF investment in less than 10 years. Finally, in terms of its impact on the declining adjacent neighborhood, the City reports that today there are no vacant apartments, and homes sell within days of listing. An entire block of new homes was developed adjacent to the site in 2001, and it sold out immediately.

The success of the Johnson Street Quarry project demonstrates that: (1) community participation can enhance acceptance and marketability; and (2) strong public private partnership are keys to success in brownfields revitalization.

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Small Scale Commercial

Smaller brownfield sites can provide opportunities for small business owners to obtain property at a reduced cost. In many cases, developers are able to preserve historic or distinctive structures that define a niche and help enhance the profitability of their businesses. The reuse of a car dealership showroom in Rochester, NY, a machine shop in Stamford, CT, and a 1930s era gas station in Milwaukee, WI, are great examples of small businesses that have flourished on small brownfield sites.

ROCHESTER, NY: Old Auto Dealer Becomes Art Deco Coffee Showroom

The 2.2 acre former Hallman Chevrolet automobile dealership and service garage, located in downtown Rochester, was redeveloped as part of Rochester's strategy to bring housing, nightlife, and new vitality to the City's east end of downtown. Some \$10.6 million was invested in what is now known as Chevy Place for site preparation and construction of 77 new residential townhouses and apartments. Chevy Place also includes a below-grade parking garage and the renovation of the historically significant Hallman Chevrolet showroom as a 24 hour art deco-



style coffee house and restaurant. A restaurant and nightclub now exists in the former dealership parts office and storage area.

From 1930 until 1990, the site was one of the largest new car dealerships in Rochester. The dealership included a large, multi-bay service and repair garage, as well as a gasoline station. The site was vacant from 1990 until the City purchased the property in 1996. The project, which ultimately would take five years from start to finish, presented several challenges to the

City and the developer, Home Properties of New York. Changes in New York State Department of Environmental Conservation (NYSDEC) cleanup programs, shifting redevelopment plans, historic preservation restrictions, street reconstruction, and funding constraints posed major challenges to the project — and these were in addition to the environmental concerns at the site, which included several abandoned underground storage tanks.

Contaminants found during investigations by the City included asbestos and gasoline, lube oils, used motor oil, and hydraulic oil. Investigators also found petroleum-contaminated soils beneath the former gasoline station and repair garage. Other soil contaminants included heavy metals and semi-volatile organic compounds. In groundwater, free petroleum product was present and dissolved compounds were detected at concentrations that exceeded NYSDEC standards.

During 1997, the City completed asbestos abatement, the closure of five storage tanks, the removal of 19 in-ground hydraulic lifts, the closure of floor drains and sumps, the removal of contaminated soil associated with storage tanks, and the installation of a blasted bedrock free product/groundwater recovery and treatment system. Home Properties' plans for expanded residential use of the property required a second cleanup phase and the demolition of the service garage. The second phase of remediation was performed from 1998 to 2000 under a joint agreement between Rochester and Home Properties. During that phase, 7,000 tons of contaminated soil and bedrock and 12 more underground storage tanks were removed under a standard NYSDEC petroleum stipulation agreement. In addition, soil vapor extraction and passive soil venting systems were installed as required by the local health department.

Total cleanup project costs, including both phases of remediation, were approximately \$750,000. Rochester financed the initial phase of the cleanup with part of its HUD Community Development Block Grant allocation. The developer funded the second phase of the cleanup. In addition, the city assisted Home Properties with environmental costs by providing direct reimbursement for certain disposal costs, providing the company with a \$2.35 million loan for the redevelopment project, and reducing the purchase price of the property due to the environmental cleanup costs.

Rochester's first new downtown apartment complex in 20 years was finished in spring 2000. The project resulted in the construction of 77 new residential units — 97 percent of which were rented within three months. Chevy Place's most distinguishing architectural feature is its art deco showroom, which remains standing due to its historic site designation. The former showroom has been renovated as a 24-hour coffee shop, the Spot Café, and the former parts area was converted into a restaurant and nightclub called Matthews East End Grill. The apartment complex is located in Rochester's East End cultural and theater district, near the Little Theatre, the Eastman School of Music and the Eastman Theatre, and several restaurants and museums. This project has added to the vibrancy of Rochester's entire east side, and has been a catalyst for over \$100 million in private investment and development in the East End. The City has since assembled another 2 acre brownfield site one block from Chevy Place and secured an EPA brownfield cleanup grant to perform soil cleanup. Proposals for upscale townhouse redevelopment of this second site have already been received.

Prior to redevelopment, the abandoned dealership property and buildings sat vacant for many years. Rochester Mayor William A. Johnson Jr. stated at the grand opening of Chevy Place that brownfield redevelopment projects such as this are " . . . resurrecting and reinventing our existing infrastructure."

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STAMFORD, CT: Brownfields Loan Helps Rev Up New Harley Dealership

In 1999, EPA provided the first of two awards totaling \$747,000 to Stamford, CT to capitalize the City's Brownfield Cleanup Revolving Loan Fund (BCRLF).

In December 1999, the City of Stamford entered into a loan agreement with Blues Brothers LLC, which was under contract to purchase three historic industrial parcels to assemble a site for conversion to the Harley Davidson of Stamford dealership. The Blues Brothers' site is located in Stamford's distressed South End Neighborhood, a mixed use area of mostly commercial and industrial properties but also historic multifamily houses. The site had been home to a specialty lab, a brass foundry, a plating operation and an electric motor repair shop. The Phase I and II environmental assessments of the property had been completed by the seller



of the property prior to marketing the site. The cost of remediation was estimated at \$160,000, which was the basis of a price concession from the seller.

The principal of Blues Brothers LLC, Fritz Blau, learned of the availability of BCRLF funds while attending a meeting of the South End Neighborhood Revitalization Zone, a collaboration of residents, businesses and the City. The BCRLF program enabled the Blues Brothers to borrow \$160,000 to finance the cost of abatement and removal of contaminated material at the brownfield site.

While the zero percent financing for 12 months was a benefit to participating in the BCRLF program, this was overshadowed by the value to the Blues Brothers of the technical assistance and guidance provided by the City and the EPA throughout the remediation process. In reviewing the environmental site assessments, EPA staff noted that the site was not tested for PCBs even

though the land use history hinted that PCBs might be present. Upon advice of EPA, prior to purchasing the site, the Blues Brothers conducted more soil testing and discovered significant levels of PCBs that would add \$150,000 to the cost of the clean-up. This gave an opportunity for the Blues Brothers to renegotiate the \$875,000 purchase of the site. The seller agreed to escrow \$150,000 for the removal of the PCB contaminated soil.

The City of Stamford employed a licensed environmental professional to serve as the Brownfields Site Manager. The City also engaged an environmental consultant to work with the City staff and the EPA's staff member who was on loan to the City. Though only required

While the zero percent financing for 12 months was a benefit to participating in the BCRLF program, this was overshadowed by the value to the Blues Brothers of the technical assistance and guidance provided by the City and the EPA

to remediate to Connecticut's commercial standards, the Blues Brothers LLC was committed to working with Stamford's Community Development Office, to clean the site to residential standards. The effort was undertaken in conjunction with the state's voluntary cleanup program, to maximize options for future use. By October 2000, approximately 3,500 tons of soil contaminated with chromium, lead, cadmium, petroleum hydrocarbons, PCBs, and arsenic were removed from the former industrial site, reducing exposure risks for neighborhood residents.

The project was not only successful in achieving its planned goals, it was a demonstration of the ability to form effective partnerships. Resources were pooled and cooperation secured. By the grand opening on December 1, 2000, the \$1.5 million redevelopment project had renovated two turn-of-the-century buildings that are listed on the National Register of Historic Places, and opened a Harley Davidson/Buell Dealership with a showroom, offices, and maintenance facility. The enterprise brings new life to the community, along with the creation of 10 new jobs and the preservation of 17 existing jobs.

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MILWAUKEE, WI: From Gas Station to Coffee House at Neighborhood Landmark

Sherman Perk, a successful independent coffee shop developed on an oddly sized, triangular shaped petroleum brownfield site, is located in the Sherman Park area, one of Milwaukee's most diverse neighborhoods. The building, which was renovated into the coffee shop, was built in 1939 and operated as a gas station by two generations of the same family for 50 years until the last family member retired and sold the property in 1989. Unfortunately, subsequent owners let the site sit vacant for the following ten years, and it slipped into tax delinquency and was boarded up.

In the mid-1990s, a local community group, Grasslyn Manor, launched the process to register the old gas station with the City of Milwaukee's list of Historic Properties. The building was one of the few remaining unaltered examples of a Streamlined Moderne architectural style gas station in the Midwest, a feature which the group felt could give it a unique commercial advantage. Grasslyn Manor tried to acquire the property with the intent of converting it into a coffee shop — and even came up with the name "Sherman Perk" that would survive their efforts — but the group was unsuccessful. Nevertheless, it had laid the foundation and identified a market for this type of revitalization.

In spring of 2000, Bob Olin, the current owner, developed an interest in the property primarily because of its historic value. However, the site had serious problems. The City of Milwaukee had ordered the gas station building demolished because the structure was seriously deteriorated and hazardous, and the site was contaminated with petroleum from years of fuel leakage. In addition, the site was nine years tax delinquent, which was a significant financial burden that had discouraged developer interest in the site.

However, Olin persevered and in mid-May, 2000, he attended a meeting of the Sherman Park Historic Preservation Council to express his interest in reviving the idea of developing a coffee shop at the site. Olin was aided in his effort by a new Wisconsin state law, which was passed in large part at the urging of Milwaukee officials who had sites like his in mind. The new law was designed to encourage reuse of tax delinquent, contaminated properties by linking cleanup and reuse to tax foreclosures, assigned tax liens, and a tax forgiveness process. This statute became the tool that facilitated the saving of the gas station and the coffee shop became the pilot case for this new law.

In the case of Sherman Perk, the parties to the foreclosure included the City of Milwaukee and the Wisconsin Department of Natural Resources (WDNR). The City's role was to commence with the tax foreclosure and then place the property in the hands of a developer (in this case, Mr. Olin) who would do what was needed to get the property back into tax-paying status. WDNR's role was to oversee the environmental remediation of the property, which it did through the state voluntary cleanup program. After five months of effort, the statute was applied and the petroleum contaminated Sherman Perk site was transferred to Mr. Olin for cleanup and redevelopment.

As a small, community-based developer, Olin faced critical financial hurdles in getting his project underway. He worked with a variety of public agency partners to structure a package of financial incentives that made Sherman Perk a reality. The City and County of Milwaukee

provided \$30,000 in grants to help cover the costs of site cleanup, including removal of underground storage tanks, and the Wisconsin Department of Commerce awarded \$100,000 through its brownfield revitalization program to help finance redevelopment. A key component of the "financing" proved to be the hundreds of hours of sweat equity provided by friends and neighborhood groups, who clearly wanted this project to succeed in their community.

The grand opening of Sherman Perk took place on August 20, 2001, and the coffee shop has become a thriving neighborhood landmark. Olin recently received confirmation from the National Park Service that the restoration met standards for historic preservation, which will clear the way for the property's listing in the National Register of Historic Landmarks. Sherman Perk also received a Mayor's Design Award in 2002.

In 2003, Sherman Perk's owner paid the greatest tribute possible to the opportunities and process of converting an abandoned petroleum brownfield site—he did it again! Bob Olin opened a second coffee shop at an old gas station site in the historic Kletzsch Park neighborhood in Glendale, Wisconsin (not surprisingly called Kletzsch Perk), and is looking for two more similar sites for additional outlets.

For more information, contact :

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Mixed-Use Developments

Mixed-use developments help local governments create better places to live, work, and play while reducing reliance on automobiles. When located on a previously developed site like a brownfield, these developments have the added advantage of avoiding the infrastructure, environmental, quality of life, and other costs associated with sprawling development patterns.

PORTLAND, OR: Smart Growth Project on Albina Corner Sparks Revitalization of Distressed Neighborhood

The Albina Corner project in Portland is typical of the small-scale brownfield sites that blight neighborhood areas all over the country and which must be redeveloped if community revitalization strategies are going to realize their maximum benefit.

In 1989, the City of Portland joined with community groups, developers, business leaders and others stakeholders to revitalize inner North/Northeast Portland with a focus on the commercial corridor along Martin Luther King, Jr. Boulevard, Northeast Portland's "Main Street," which had substantially deteriorated.

The City and its community partners developed the Albina Community Plan to address the loss of businesses, jobs and community wealth; the loss of housing and population; the community's image as an "unsafe area," and public safety. Because each of these problems exacerbated the others, a holistic land use, transportation, and urban design strategy was developed.

One of the first successful redevelopments under the plan was the three-quarter acre Albina Corner site, which housed an old car lot, a car wash, and a small office building that dated back to the 1920's. A number of small-scale contaminants (lead paint, asbestos, and some petroleum), in addition to Albina's image as a declining area, were deterring reuse. However, the site also had several advantages, not the least of which was its location near a major bus route and light rail station.

In an effort to address both the need for housing and the desire for new business opportunities, Portland's planning commission approved a zoning change in 1995. This change allowed for high-density housing and mixed-use development at the Albina Corner site and other properties outside of the central downtown area as well as including housing over ground floor retail shops. The mixed-use approach cleared the way for a project that includes 48 units of low-income housing built over 12,000 square feet of commercial space at Albina Corner.

The \$4.4 million project was financed through a complex combination of 11 different public and private construction and take-out loans from banks and other sources. Low-income housing tax credits also were used. In addition, \$100,000 in project seed funding was provided by the Oregon Housing Trust Fund.

The design for this redevelopment included several important smart growth aspects. For example:

- ▶ The project uses shared parking between the commercial and residential uses in order to reduce the total number of spaces required. Skeptical lenders were convinced that this would work only when they were shown photos indicating that apartment parking lots remained virtually empty during the work day.
- ▶ The project incorporates an oasis of greenspace for the residents with a central courtyard that was built over the first floor shops, open to the sky, with the three floors of residential units located around it. The courtyard has trees, a fountain, built-in seating, and enough room for children to play.
- ▶ The original first-floor commercial enterprises, including a bank, coffee shop, beauty shop, convenience store, and art gallery, supported the project, covering much of the maintenance costs, while providing residents on the upper floors, especially senior citizens, with handy access to banking and other services. Since then, the commercial uses have evolved, replacing the beauty shop with a day care center.
- ▶ The first-floor commercial spaces at Albina Corner are actually part of the brownfields cleanup remedy, serving to cap on-site pollution and prevent exposure to residents or the public from pollution.

Albina Corner has become a real "gateway" project for the Albina community and has helped catalyze the overall revitalization of this area.

Because of the efforts of the neighborhood, the City, the State, and a small local developer with a vision, this small but critical brownfield site was redeveloped. Albina Corner has become a real "gateway" project for the Albina community and has helped catalyze the overall revitalization of this area. With minimal advertising, the apartments were leased at market rates within six weeks, well ahead of schedule, and 90 percent of the commercial space was leased prior to construction.

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KENOSHA, WI: Insuring a Bright Future

When facing the prospect of brownfield renewal, the toughest hurdles can often be estimating how much the cleanup will cost, and then obtaining the cleanup funds. When the costs of cleanup are uncertain, site owners and potentially responsible parties face unknown risk, and brownfields redevelopment deals often flounder. The City of Kenosha, Wisconsin faced those questions in its quest to clean up and revitalize the old American Brass brownfields site into the Harborpark Development Project, a comprehensive redevelopment project encompassing 29 acres of downtown Kenosha. The key to success in Kenosha was environmental insurance.

The owners and responsible parties at the American Brass site were covered by a 30-year environmental insurance policy issued by American Insurance Group (AIG) that protected them from uncertain future costs, and allowed the deal to move forward.

In 1998, the City of Kenosha, selected by the EPA as a brownfields grantee, developed plans to transform this once-delinquent and contaminated industrial land into a center of activity with public gathering places, a mile-long promenade, visitor attractions, a public trolley system, and a water-oriented residential neighborhood. However, the deal stalled due to uncertainty about cleanup costs.

To spur redevelopment of the property, Kenosha officials and the foundry owners developed a unique approach. They agreed to pay a selected environmental contractor \$10 million to demolish the buildings and clean up all contamination — regardless of whether the environmental problems are discovered today or many years from now. The contractor was able to take the risk because it has developed an expertise to accurately estimate long-term cleanup costs. Moreover, the contractor was protected by an insurance policy that provided protection against cost overruns, unexpected future cleanup costs, government reopeners or change orders, third-party claims, and other legal liability from the site, with a total limit of liability of up to \$15 million. With these assurances, the site owners, the City, and the contractor felt comfortable that the odds were in their favor. The guarantee helped persuade the owners to contribute toward the cleanup since they knew in advance the total amount they would need to pay. Working together, the parties agreed on a site cleanup cost ahead of time that all were able to accept. The total site cleanup and preparation costs eventually totaled \$10.1 million.

The removal of the old foundry promises to breathe new life into the neighborhood, with a new supermarket, retail shopping center, and a golf dome.

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Manufacturing

When industries close or relocate they not only create blighted brownfields, they also take much needed jobs out of both urban and rural communities. Such a loss can be devastating to a community's economic well-being and can instigate or exacerbate decline. While some communities have sought to make new kinds of uses for these abandoned sites, others have sought to rededicate them back into industrial uses. This approach not only removes blight, but also restores employment opportunities to the community. In addition, since communities can often tailor cleanup remedies to future uses, rededicating a site to industrial uses often allows for more cost-effective cleanups. Large cities like Chicago and smaller communities like Spartanburg, South Carolina and Meriden, Connecticut have found success with this approach to brownfields redevelopment.

CHICAGO, IL: Restoring An Industrial Employment Center

The Kinzie Industrial Corridor in Chicago, is located one mile west of Chicago's famous Loop and stretches for about six blocks along Lake Street. After World War II, the west side area was a thriving industrial hub that brought employment opportunities to area residents and supported considerable commercial activity. Since race riots rocked the City in 1968, the area has been in decline, as properties were gradually abandoned and residents fled to the suburbs. As you would suspect from a 40-year old industrial corridor, Kinzie was brownfield central.

Chicago has undertaken a major initiative to revitalize the Kinzie corridor area. A key element of Chicago's strategy includes acquiring former manufacturing parcels, usually taken for back taxes, that adjoin sites the City already owns, which are adjacent to the Chicago "El" transit system and bus lines. Ultimately, the City is seeking to assemble a 70-acre tract that could be used to meet modern manufacturing needs and retain and expand the number of high-wage, high-benefit jobs available within the central city.

As part of this commitment —

- ▶ The City is using \$4 million in HUD resources — CDBG and Section 108 loan guarantees — for brownfield-related activities in the Kinzie corridor area, including site acquisition, environmental testing, site cleanup, and demolition. The City is also helping to clear property titles.
- ▶ Chicago is making significant infrastructure improvements to make it more suitable to modern manufacturing. This investment includes street improvements and enhanced site access, a portion of which is funded through the City's share of state allocated Department of Transportation funds.
- ▶ The City is closing streets and alleys as needed in order to assemble larger tracts to accommodate manufacturers' acreage needs — scrapping the traditional grid pattern to meet modern space needs. A planned streetscaping project along Lake Street will make the site more attractive from the adjacent El line, as well as providing an aesthetic buffer for nearby commercial and residential areas.

- The City is aggressively marketing various financial incentives to new users of corridor sites. These include federal empowerment zone and brownfield tax incentives, state enterprise zone incentives and financing programs, and a Chicago tax increment financing district.

Public sector involvement has been critical to jump-start the reuse process and help move it through its critical, make-or-break early phases of site investigation and cleanup. The City has also assembled sites and linked site owners to state and federal assistance programs and incentives.

The Kinzie Corridor project connects community program planning and spending with brownfield needs. For example, brownfield projects are being creatively coordinated with public works initiatives, including transportation projects, job training, and commercial developments. City and county public works spending is being carried out in ways that complement this new community development strategy.

New developments in the Kinzie corridor, like many emerging brownfield projects, are tailoring clean-ups to meet site end use, whether it be industrial, commercial, or residential standards. This approach is becoming more popular as institutional controls, such as ground water ordinances, gain more credibility with states, communities, and private owners.

The results to date in the Kinzie Corridor are impressive. A long time corridor occupant, the Northern Greenhouse Company, will expand its existing wholesale landscaping business onto an adjoining parcel, providing 40 new jobs. Northern Greenhouse has also been retained by the City to do the landscaping component of the Kinzie Corridor buffer, which will help keep the dollars spent on the revitalization within the Kinzie community. Another existing corridor business, Standard Equipment, is expanding and modernizing its operations. The company will use 14,000 square feet for a truck and Zamboni maintenance facility (with the latter serving the nearby United Center Arena). That \$1.5 million investment will generate several new jobs.

The City is also working to help develop new business opportunities in the corridor. Clearwater Fisheries, a new occupant in the corridor, is constructing a 31,000 square foot building for seafood processing and distribution. The company's \$6.5 million investment will create more than 50 new jobs. In addition, the Spire corporation is locating a solar photovoltaic factory in the corridor that will manufacture and locally install solar electric modules and systems. The factory is the result of a partnership between Spire, Chicago's Department of Environment, Commonwealth Edison and the U.S. Department of Energy. The City has committed to install environmentally friendly solar electric systems on public buildings, schools, and transportation facilities throughout the Chicago area. (See the related profile of the Chicago Green Building Center in the Green Buildings section of this report.) Commonwealth Edison will purchase \$6 million worth of the company's Solar products as part of its agreement with the City to invest in renewable energy technologies.

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SPARTANBURG, SC: Recycling Land for Recycling's Sake:

When Carolina Recycling Group, LLC (CRG) opened its Nazareth Church Road plant in 1997, it became the first company in South Carolina to successfully return a site to productive use under the State's brownfield program.

The Batchelder Blasius plant first began aluminum recycling and smelting operations in 1966. When it filed for bankruptcy in 1990, this facility left behind mounds of slag and ash, more than 600 drums of used oil, seven unclosed underground storage tanks, and 27

above ground tanks containing more than 40,000 gallons of chemical waste and processed oil. With no assets to maintain the property, the Batchelder Blasius Company abandoned the maintenance of the 5-acre landfill that it had used to dispose of magnesium chloride and slag waste (a smelting byproduct). A Site Screening Investigation by the South Carolina Department of Health and Environmental Control (DHEC) in the following months also detected elevated levels of ethyl benzene and chloromethane derivatives and heavy metals in groundwater and soil samples.

Despite the extensive contamination, CRG expressed interest in purchasing the 42-acre abandoned property. Since it had been home to a metal processing facility for 24 years, the site offered the infrastructure necessary to accommodate CRG's industrial needs. The property was strategically located near interstates and sat directly on a main CSX rail line. The old Batchelder Blasius furnace building was ideal for protecting scrap from the rain. Four acres of concrete along with a double lined collection system attached to an oil water separator were already in place.

In 1996, CRG became the first party to negotiate an agreement through South Carolina's Voluntary Cleanup Program (VCP). This arrangement protected CRG from being held liable for the contamination that existed at the site at the time of purchase. In exchange for this safeguard, CRG agreed to contribute to the cleanup of the contaminated property. Among the requirements outlined in the VCP contract were: (1) the maintenance of the landfill cap and replacement of soil and vegetative cover in needed areas; (2) the closing of seven underground

In 1996, CRG became the first party to negotiate an agreement through South Carolina's Voluntary Cleanup Program (VCP). This arrangement protected CRG from being held liable for the contamination that existed at the site at the time of purchase.

storage tanks (USTs) in accordance with DHEC UST regulations; (3) the removal and proper disposal of the oil from an abandoned oil tanker; and (4) the preparation and implementation of a groundwater sampling plan that will monitor levels of contamination in existing and new monitoring wells.

The Carolina Recycling Group spent approximately \$1.5 million to assess, remediate, and renovate the property. The corporation received assistance from South Carolina DHEC, Carolina First Bank, the Southeastern Regulatory Resolution Alliance—a Department of Energy Program, Spartanburg County, and the Southeastern Environmental Resource Alliance. Thanks to these strong partnerships, CRG finished the bulk of the cleanup and redevelopment in 1997, more than a year ahead of schedule.

CRG now enjoys the benefits of a state-of-the-art, environmentally friendly metal processing and recycling facility. Turnings and other oily scrap are completely under roof. Oil and other liquids are collected by a double lined collection system in the floor of the building, which is attached to an oil water separator and treatment system. All liquids entering this system are recycled as fuel or primary wash water for equipment. More than four acres of concrete and 80,000 square feet under roof, allows for the storage and processing of material without coming into contact with the soil. In 2000, CRG received a prestigious Phoenix Award for its innovative approach to brownfield redevelopment.

Since the remediation, the CRG's annual sales have grown from \$15 million to approximately \$93 million in 2003. The company has added seven additional operating locations throughout the Southeast and a total of 235 employees. The operations recycled

more than 478,929 gross tons of ferrous and nonferrous metals in 2003. Because of the success of the Spartanburg project, CRG decided in 2002 to invest more than \$10.5 million in new processes on the brownfield site. This success has encouraged others to consider Brownfield redevelopment. Since working with CRG, the South Carolina DHEC has entered into 64 additional Voluntary Cleanup Contracts with non-responsible parties. These agreements will help preserve South Carolina's open space and bring economic vitality back to urban areas.

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MERIDEN, CT: Clearing the Way for Modern Manufacturing

Meriden, Connecticut, is a City of 58,000 that is facing significant economic development challenges as businesses in the local manufacturing industry have closed or scaled back operations. However, the City has found success by marketing the brownfields sites left behind to new or expanding businesses like the TI Automotive Corporation (formerly known as Walbro Corporation). When this company was looking to expand, the City of Meriden, with the assistance of the Connecticut Department of Economic and Community Development (DECD), put together a diverse package of assistance and incentives to convince the company to stay in Meriden and expand onto a brownfield site.

In the 1980s, Meriden Rolling Mills Industries, Inc. closed its doors and abandoned its industrial facilities complex, built in stages and owned by several different manufacturing businesses during its 125 year history. The site sat idle for several years until the TI Automotive Corporation, already operating in Meriden, began looking for a site to expand its production

facility. The Meriden Rolling Mills Site was adjacent to TI Automotive's existing facility and a great candidate for expansion. However, the 10.75 acre site, which was covered with 180,000 square feet of buildings, was heavily contaminated with the residue of more than a century of manufacturing: petroleum hydrocarbons, PCBs, trichloroethene, metals, lead, volatile organic compounds, pesticides, and cleaning fluids.

Despite the widespread contamination, the City was able to bring together a variety of partners to clear the site, remediate it, and make it

an attractive option for TI Automotive's expansion. State support was critical to the success of this effort. An initial \$200,000 site investigation was financed by the Connecticut Department of Environmental Protection (CDEP). The State DECD provided planning funds to assemble 15 acres, comprised of the main complex, a former employee parking lot, abandoned railroad siding, a scrap metal yard and nine adjacent residential properties.

The assessment revealed that significant work had to be done to prepare the site for redevelopment, including demolition of the old factory buildings and the removal of 46,000 tons of contaminated material. Building demolition and asbestos removal was financed mainly



with \$4.5 million from the DECD's Economic Development and Manufacturing Assistance Act funding program.

Of the \$7 million in site cleanup costs, \$6 million came from CDEP and the other \$1 million was retained by CDEP for use on pre-demolition assessment and cleanup. Connecticut's Urban Sites Remedial Action Program paid for most of the soil and groundwater remediation and established the remediation standards for the new manufacturing use. DECD provided an additional \$5.4 million for construction of the new building and purchasing new machinery and equipment, and Meriden contributed an additional \$500,000 of inducements.

In addition to funding, Connecticut addressed TI Automotive's concerns about contamination liability by providing the company with a "covenant-not-to-sue" letter, which was critical to the company's willingness to expand on the site. Once the site was clean and shovel ready, it was transferred to TI Automotive in early 1996 and the new plant was completed in less than a year. The new TI Automotive plant cost \$16.5 million to build, and \$4.6 million to equip. Overall, the project has leveraged \$ 32.0 million in private and public investment.

The new TI Automotive facility is a state-of-the-art 150,000 square foot building with a work force of 660, which represents Meriden's demographic diversity: 42 percent of the workers are minorities and 39 percent are women. The new plant employs almost double the number of workers in R&D, molding and assembly, materials management and administration than before the expansion.

Meriden and the state of Connecticut are seeing substantial benefits from this project and their investments. By 2009, the plant is projected to have a \$38 million total annual payroll, employ 900 workers, and generate an additional \$8 million in sales and income taxes and \$10 million in gross real and personal property taxes over the facility's pre-expansion levels.

Meriden and the State of Connecticut have demonstrated that manufacturing operations can survive and even thrive when modernization efforts are appropriately seeded — and that this process can be successfully carried out in spite of brownfield considerations.

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Open Space

Many communities have used brownfields as an opportunity to enhance community livability through the creation of new open space preserves or public green space. This approach becomes even more critical as new developments eat up more and more greenspace every year. In addition, more communities are finding that the amenity value of new open space is attracting additional residential and commercial investment.

DENVER, CO: Using Open Space to Fight Crime

With help from federal, state, and community partners, the City and County of Denver transformed an abandoned, blighted, crime-ridden, sewage treatment plant into a multi-use development complete with open space, recreational areas, and an urban wildlife area.

The Northside Wastewater Treatment Plant, located in a disadvantaged area along the Platte River in Denver, Colorado, was abandoned in 1984. By the mid-1990s, the site came to be known as "Pirate Island," a hotbed for vandalism, crime, and mischief. Windows were shot out, automobiles were pushed into the river, anything of value in the plant was stolen (including aluminum stairs and the front entrance to the administration building), and the facility was used as a staging area for efforts to burglarize the site's industrial neighbors.



The City targeted the plant for redevelopment as part of a citywide effort to develop a series of parks and recreation

areas along the South Platte. The City utilized brownfields pilot funds for an assessment and Department of Commerce funding to demolish the remaining structures on the site. Several community meetings were held to help identify neighborhood needs and develop a vision for the site.

Half of the site's 100 acres were set aside as an urban wildlife area, including Heron Pond which is currently under construction. Another 13 acres were devoted to a recreation park with wetlands, athletic fields, and a walking trail connecting the park to the wildlife preserve. The park design incorporates many of the plant's old structures, recognizing the site's heritage, while also reducing demolition costs. The remaining components are being used for an armory for the Colorado National Guard and an industrial park.

Spurred in part by the redevelopment of this site, the surrounding community is undergoing an economic resurgence. The construction of new commercial enterprises at three nearby properties are demonstrative of the new wave of development that the cleanup of the site has triggered. While centered in a predominantly industrial area, surrounding neighborhoods have easy access to the site via a network of bike trails. This community has not witnessed this level of redevelopment in many years.

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ST. PAUL, MN: Railyard Reclaimed to Complete Trail System

Just east of downtown St. Paul, Minnesota, the Mississippi River turns past the lower town and downtown areas, snakes its way past the Dayton's Bluff and Railroad Island neighborhoods and turns below the face of Dayton's Bluff. In this downtown area of the valley, where Phalen Creek once joined the Mississippi, an abandoned rail yard once sat, surrounded by both urban bustle and quiet riverfront parks.

Residents of the St. Paul area are fortunate to have a rich variety of trails that weave throughout the outskirts of downtown. Yet the trails had never connected, because they were blocked by this rail yard and a tangle of highways. Minnesotans own more bikes per capita

"The transformation of this land from an abandoned industrial area into a beautiful, clean park will add enormous beauty and vitality to our city."

—Weiming Lu, Lower Phalen Creek Project Steering Committee

than residents of most other states and they are increasingly forgoing their cars to bike to work and play. But the rail yard stopped cyclists in their tracks, with no way to continue into the downtown area, or on to other trails.

A community effort, called the Lower Phalen Creek Project, is working to reclaim the abandoned rail yard, and transform it into the new 27 acre Bruce Vento Nature Sanctuary at Lower Phalen Creek. The Sanctuary, and the planned trail extensions, are the culmination of more than six years of planning, research, and fundraising, as well as the innovation of an inspiring public private partnership. Twenty-five environmental organizations, government units and neighborhood groups have devoted endless time and energy to the success of the project. Support from private foundations for the Lower Phalen Creek Project has been key to the advancement of the sanctuary's revitalization. Without this support for the ongoing project management to oversee such key aspects as fundraising, the clean up and implementation of the restoration plan would not have been possible.

The process to reuse the rail yard began in 1998 with a Phase I Environmental Assessment. This report identified likely pollution sources stemming from the historical usage of this area, which included primarily industrial and railroad activities. In 2000 and 2001, Phase II investigations were conducted, further specifying the types and quantities of pollution on site.

The property was entered in the State's Voluntary Investigation and Cleanup (VIC) program and the Voluntary Petroleum Investigation and Cleanup (VPIC) program. VIC and VPIC required on site testing. Chemicals found during this soil testing include: lead, mercury, arsenic, chromium, PAHs, and diesel range organics. Site cleanup and testing to confirm adequate removal of contaminated soils began in 2003 with completion expected in fall 2004.

The entire Lower Phalen Creek Project is moving forward in phases, the first of which is to extend the Bruce Vento Regional Trail. The 1.8 mile extension will continue the trail out of Swede Hollow Park, connect to the Mounds Park/Great River Road Trail, and feed into the



Lowertown/ Downtown district.

The trail will wrap around the new sanctuary, passing a number of historic and natural areas.

The second phase of the project involves creating a trail that will go through the Sanctuary itself, as well as building a pedestrian and bicycle bridge to connect the sanctuary to the Mississippi River and its associated trail system.

The Lower Phalen Creek Project is currently seeking funds for this \$4.5 million project from the TEA-21 Surface Transportation Program. In addition, Minnesota Representative Betty McCollum has been working

to obtain funding for the effort as a High Priority Project under the federal transportation reauthorization bill.

Remnants of the land's industrial use, including a historic railroad bridge and stone building foundations, can be found around the sanctuary and along the route of the bicycle trail connection. "The transformation of this land from an abandoned industrial area into a beautiful, clean park will add enormous beauty and vitality to our city," said Weiming Lu, a member of the Lower Phalen Creek Project steering committee and President of the Lowertown Redevelopment Corporation. "The history and natural charm of the area will be enjoyed by families and children from St. Paul and beyond."

Residents around the St. Paul area are fortunate to have the Lower Phalen Creek Project en route, which will transform the neglected rail yard that was once the center of downtown. Instead of empty space, the neighborhood is rewarded with green open space and a remarkably innovative watershed improvement project. The efforts and accomplishments of the project are a testament to what can be achieved with dedicated partnerships and an open mind.

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Smart Growth

The proliferation of abandoned, mothballed, or underutilized properties in our core urban areas has contributed to sprawling development patterns and the associated negative impacts on air and water quality. By redeveloping brownfields sites in the urban core, communities are taking the first step toward reversing this trend. Some communities, like Atlanta, GA, and Southeast Florida are taking it one step further, by building smart growth developments on brownfield sites.

ATLANTA, GA: The Atlantic Station Project Makes Lemonade Out of Dixisteel

With a population that has doubled since 1980 and accounts for more than half of Georgia's residents, the Atlanta metropolitan area is the fastest growing city in the Southeast. Atlanta is also the least dense urbanized area of the top 15 metropolitan areas in America, characterized by sprawling, low density patterns of development and traffic congestion that is among the worst in the country. With an expected increase in population by an additional 2.5 million people in the next 25 years, the sprawling development patterns must be addressed to ensure a sustainable future.

However, Atlantans seem to have a knack for making lemonade out of lemons. While the closure of the Atlantic Steel Mill in 1998 after nearly a century of producing "Dixisteel" cost the area thousands of jobs, it also presented a tremendous opportunity. The location of the 138-acre site in midtown Atlanta and in close proximity to major transportation and transit routes made the site a prime location for a new smart growth urban development project. Today, the Atlantic Station community is a model of smart growth that provides its residents with multiple options to "live, work, and play" all within walking distance.



Jacoby Development Inc. acquired the property in 1997 with hopes to revitalize and redevelop the 138-acre site. AIG Environmental provided cost overrun insurance for the remediation of the land and in 1999 AIG Global Real Estate Investment Corp. became a co-developer and investor. Together, Jacoby and AIG Global Real Estate proposed a 12-million-square-foot, mixed-use redevelopment plan for the Midtown Atlanta site. However, the site was separated from the east side of midtown Atlanta and the MARTA transit line by a major highway. Before the redevelopment could

move forward the 17th Street Bridge and interstate ramps had to be built to provide sufficient access to the site via automobile and public transit. Unfortunately, because Atlanta was out of compliance with federal transportation conformity requirements, the state was not allowed to use federal funds to add to its highway system nor construct transportation projects that require federal approval even if they were not federally funded.

The EPA entered into a Project XL agreement with the developers, to address the ban on transportation infrastructure. Project XL, "eXcellence and Leadership", is a program that "allows states and local governments, businesses and federal facilities to develop with EPA innovative strategies to test better cost-effective ways of achieving environmental and public health protection." Under the agreement, development of the site would have to include interchanges and bridges for cars, pedestrians, bicycles, and buses to serve as essential links to Atlanta's mass transit system, MARTA. The goal of the agreement was to create a connection between the Atlantic Station community and public transportation to reduce growth of traffic in Atlanta and its negative impacts on air and water quality.

The next hurdle was cleaning up the site. The developers partnered with the Georgia Department of Natural Resources Environmental Protection Division (EPD) to develop a \$10-million plan to remediate the site's extensive contamination. The developers conducted a risk-based site assessment to determine the level of cleanup needed at the site, which included: the removal of more than 9,000 truckloads of impacted soils; construction of erosion/stormwater controls and barriers to prevent exposure to soil that remained on-site; surface water runoff controls; prevention of groundwater contamination at other sites; and creating institutional controls to prevent future exposure to contamination. Remediation of the former Atlanta Steel mill site was finished in December 2001 when the State issued a "no further action" letter.

An EPA analysis of the transportation and air emissions impacts of the project compared to a similar development in an outlying Greenfield area found that the the Atlantic Station redevelopment will result in 34 percent fewer vehicle miles traveled (VMTs) and up to 45 percent fewer NOx emissions.

In 2000, construction began. The plan for the site calls for it to be divided into three areas, the District, the Commons, and the Village. The District, a portion of which opened in March 2004, will feature one million square feet of open air retail and entertainment, six million square feet of office space, 150,000 square feet of loft office space, and 200 two story loft apartments above retail shops and restaurants. The Commons will be primarily residential with a mix of apartment buildings, and low-rise condominiums built around a new park and fountained lake, all within walking distance of the retail and office space located in the District. The Village will consist of retail shops and cafes with residential units above. To help defray the costs of infrastructure improvements to prepare the site for the redevelopment, the City of Atlanta approved the Atlantic Steel Tax Allocation District (TAD), a tax increment financing overlay that will allow the property taxes generated by the redevelopment to be used for property improvements for the next 25 years. The TAD is expected to generate \$35 million per year and will allow the developers of the site to sell bonds to cover additional property improvement costs.

In addition to cleaning up a contaminated site, the reuse of this urban infill property and integration of other "smart growth" tools into the design of the Atlantic Station community will help improve air and water quality for all of metropolitan Atlanta. An EPA analysis of the transportation and air emissions impacts of the project compared to a similar development in an outlying Greenfield area found that the the Atlantic Station redevelopment will result in 34 percent fewer vehicle miles traveled (VMTs) and up to 45 percent fewer NOx emissions. By using smart growth tools to revitalize this large urban brownfield site, Atlanta is investing in a sustainable future for the metropolitan region.

For more information visit

www.atlanticstation.com.

SOUTHEAST FLORIDA: Regional Coalition Seeks to Channel New Development to Urban Corridor

The Eastward Ho! Brownfields Partnership is a regional collaboration that aims to revitalize Southeast Florida's historic urban areas in an effort to lessen development pressure and urban sprawl in environmentally sensitive lands to the west of the Interstate 95 corridor which are critical to the Everglades ecosystem and the region's water supply. Focused on reducing market disincentives to infill development, promoting smart growth, and bringing economic activity back to neglected areas, this partnership is targeting the approximately 2,100 brownfields sites that dot the urban landscape. The remediation and sustainable reuse of these sites will assist in the protection and restoration of the Everglades' fragile ecosystem and could result in more than \$6 billion in savings for the region over the next 25 years.

Bringing together local, state, regional, and federal agencies with private sector, non-profit and community organizations, Eastward Ho! targets a 115-mile coastal strip of Southeastern Florida. This corridor includes forty percent (5.2 million) of Florida's total population. It runs through Broward, Dade, and Palm Beach counties and includes the major downtowns of Miami, Fort Lauderdale, and West Palm Beach. While the entire region is not characterized by poverty, it contains pockets of some of the most severe poverty in the country.

More than 2 million people are expected to settle in the Eastward Ho! corridor over the next 15 to 20 years. This projected influx poses a significant threat to the nearby Everglades, which are rapidly shrinking as low density development continues to push westward. Such sprawling, automobile-dependent growth comes at a cost to the local economy, in addition to the environment. The state will face billion-dollar roadway projects in order to accommodate the population increase.

In an effort to accommodate future population growth without further compromising or degrading the environment and economic sustainability of the region, the Eastward Ho! initiative focuses on funneling people back into the urban areas of Southeast Florida. The partnership is realizing this goal by providing technical assistance and funding to local governments, conducting research, undertaking demonstration projects, providing information to the public, and leading community workshops.

A number of successful community redevelopment efforts have received assistance from the Eastward Ho! partnership. The Wynwood Brownfield Project is one such endeavor that has brought new life to Miami's blighted Wynwood neighborhood. Originally home to a laundry and dry cleaning facility, this five-acre property had significant legal and environmental problems. It had been the target of illegal dumping of a number of drums containing unknown material. Assessment of the site found detectable levels of petroleum compounds and groundwater contaminated with "bunker C" fuel oil. In addition to the environmental



challenges, the property was tied up in a Nevada bankruptcy court, there was an IRS lien against it, several years of back taxes were owed, and a creditor had a judgment lien in excess of \$1 million.

The successful revitalization of the Wynwood site is primarily a result of a strong partnership between government, private business, and the community. In 1996, the City of Miami received an EPA grant to assist in the redevelopment of the

brownfield. Three years later the city acquired a Florida brownfields grant to assist with the assessment and remediation efforts. To resolve the legal and technical hurdles associated with the property and make the redevelopment financially feasible, Miami collaborated with the Eastward Ho! Brownfields Partnership, Atwater Capital Group, Congresswoman Carrie Meek, the Miami Brownfields Task Force, Miami Department of Real Estate & Economic Development, Miami-Dade County Oversight Committee, Florida Department of Environmental Protection, and the Miami-Dade County Department of Environmental Resources Management.

Atwater acquired the site through bankruptcy court and signed the first “Brownfields Site Rehabilitation Agreement” under the Florida Brownfields Redevelopment Act. Since the completion of the remediation, one parcel of the property has become a new MetroMix cement plant, providing 40 much-needed jobs for the neighborhood. The rest of the site has been sold to British developers and is slated to become live/work artist studios.

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Green Buildings

Communities that redevelop brownfields usually seek to develop a sustainable new use for the site that will help protect against the re-creation of a brownfield site. A few communities have taken protection of the environment one step further by seeking to minimize or eliminate the impact of new developments on the environment. Baltimore, Maryland and Chicago, Illinois represent a rapidly growing number of communities that are investing in green buildings, or buildings that are energy efficient, protect air and water quality, and utilize recycled materials.

CHICAGO, IL: From Brownfield to Brightfield

One of the nation's premiere "green" buildings, the Chicago Center for Green Technology, was built in 1999 on the site of an illegal dump in a federally designated Empowerment Zone, the Kinzie Corridor. The building is one of only five buildings in the country to receive the U.S. Green Building Council's prestigious Leadership in Energy and Environmental Development (LEED) Platinum rating. It is also the first municipal building and brownfields site to receive the award, as well as the only renovated building and only building accessible by public transportation to do so.



In early 1995, the City of Chicago Department of Environment (DOE) discovered that the Sacramento Crushing Company had far exceeded the scope of its operating permit as a construction and demolition recycling company. The company had illegally filled its 17 acre site just west of downtown Chicago with 600,000 cubic yards of construction waste and debris in 70 foot-high piles, some of which sank 15 feet into the ground. The Illinois EPA cited Sacramento Crushing for illegally developing and operating a solid waste storage and treatment facility.

The Chicago DOE shut down the facility and took over ownership of the property in 1996. The City then spent \$9 million to clean the site with funding from a variety of sources, including a HUD Section 108 loan, funding from legal settlements, and City funds. Additional cleanup costs were recouped by selling concrete and other materials to recycling firms and others for

use in a variety of construction projects, including the foundation for Chicago's Millennium Park.

Once remediation was complete, Chicago DOE focused its efforts on renovating the 34,000 square foot building that sat on the site. Committed to promoting the use of green technology, the City worked with the U.S. Department of Energy's Brightfields program and the American Institute of Architects Committee on the Environment to renovate the building in accordance with the U.S. Green Building Council's LEED standards. The Green Building Council was established in 1993 to "promote buildings that are environmentally responsible, profitable and healthy places to live and work." Among other things, the Council developed the LEED green building rating system to help promote and catalyze the use of green building technologies.

Based on the LEED standards, Chicago turned the Sacramento Crushing building into the Chicago Green Technology Center and a premiere national model of green building techniques. The building uses 40 percent less energy than a comparably sized building and relies on renewable energy for heating, cooling, and electricity. In addition, 20 percent of the building's energy is provided by solar panels on the roof, on awnings and in a lot behind the building. The building depends significantly on daylight provided by large, double-paned, insulating windows for both light and heating. The facility is also equipped with a smart lighting system that detects the level of natural light and adjusts the level of electric light accordingly. Over 40 percent of the materials used in the building rehabilitation are recycled or reused, including flooring made from scrap cork and bathroom tiles manufactured from recycled aviation glass.

The building also helps prevent contamination of nearby lakes and streams by limiting urban stormwater runoff. In many urban areas, stormwater rolls over roofs, sidewalks, parking lots, and other impervious surfaces, picking-up contaminants along the way, and washing them into public sewers and eventually lakes and streams. Much of the roof at the Green Technology Center is covered with a "greenroof" system consisting of three inches of a sedum-based planting that reduces the cooling load of the building, while protecting the roof's waterproof membrane. Succulent plant species on the roof absorb a significant portion of the rainwater and much of the remaining stormwater is collected in one of four cisterns for use in landscaping at the site. Reusing the stormwater for landscaping also helps reduce the facility's water usage. Finally, unlike most urban buildings, rain that flows through the Center's downspouts empties into the soil, rather than into the public sewer system. Together these features reduce the stormwater flow into sewers by more than 50 percent.

The Green Technology Center's tenants are also environmentally friendly. The Spire Solar corporation, which produces utility-interactive solar systems, has located its factory in the Center. As part of its effort to generate 20 percent of its electrical power from alternative sources, the City has formed a partnership with Spire and Commonwealth Edison to install solar panels on museums, schools, and other public buildings. Chicago DOE's Greencorps Chicago program, a community landscaping and job training program that provides horticultural instruction, materials, and employment, is headquartered at the Center. The facility also houses the offices for WRD Environmental, a landscaping company that is focused on sustainable landscaping and has partnered with the City to develop the "Greencorps" program.

The Green Technology Center has helped stimulate the redevelopment of the distressed Kinzie corridor. In redeveloping the area, the City has retained 450 jobs from a neighboring company that was planning to leave Chicago altogether. The Center itself created 38 new jobs, with the potential to create an additional 200. Additionally, Greencorps Chicago serves over 200 community groups each year through workshops and gardening materials.

In addition to earning the LEED Platinum award, the building also won the prestigious Phoenix award for Excellence in Brownfield Redevelopment, and was named one of the American Institute of Architects Top Ten Green Projects in 2003.

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BALTIMORE, MD: Recycling a National Landmark into the Montgomery Park Business Center

For over 15 years, the former east coast catalog distribution center for the Montgomery Ward department store company sat idle on 26 acres in southwest Baltimore, contributing to the economic decay of the area. Today, it has been transformed into the Montgomery Park Business Center, a Leadership in Energy and Environmental Design (LEED) gold rated "green" building that is helping to revitalize the West Baltimore Empowerment Zone.

The art deco building, which was built in 1925, was Baltimore's largest mercantile building and has been placed on the national register of historic places for the role the building played in the catalog business. Montgomery Ward closed the building in 1985 when it eliminated its mail order business. The property gradually deteriorated until it was purchased for redevelopment. The structure had the types of contaminants that were common to its era of construction — interior and exterior lead paint, asbestos, petroleum, and PCBs. The site also had six underground storage tanks that had to be removed. The estimated cost of cleanup was approximately \$2 million.

The developer, Sam Himmelrich, chose to renovate the building and incorporate a number of "green building" concepts. He recycled tiles, concrete, glass, and other materials existing at the site. In addition, he replaced an impervious surface cover on the roof with a 30,000 square

This project converted an 80 year-old historic structure into a state-of-the-art green building.

foot green roof that will reduce storm water and nutrient runoff into the nearby Gwynns Falls watershed by an estimated 50 to 75 percent each year. It also reduces the overall roof surface temperature of the Montgomery Park Business Center by up to 40 degrees. The roof, which consists of vegetation, soil, insulation, and geo-textile layers, was funded by a \$92,000 grant from the EPA.

The complex also boasts a number of other green building features, such as a 10,000 gallon extra space rainwater collection tank on the roof for toilet flushing, and operable windows to allow for natural air flow when this makes sense. Existing windows were reused, with glass panes replaced with new insulated glass that have improved thermal performance by 63 percent. The new glass is specially coated to maximize the transmission of natural light while limiting the admission of heat into the building. The air conditioning uses graywater, which is frozen at night when the demand for energy is lower. Finally, the building's lights are equipped with sensors, which dim the artificial light if there is enough sunlight.

Like many sites incorporating an innovative approach, the developers of Montgomery Park used a blend of public and private funding sources to pull the \$100 million renovation project together. These included:

- a \$29 million construction loan from Citibank;
- an \$8 million HUD Section 108 loan guarantee, in conjunction with the City of Baltimore;
- a \$1 million HUD Brownfields Economic Development Initiative (BEDI) grant, that was used as an interest reserve for the 108-backed loan;
- \$4.5 million in grants from the Empower Baltimore Management Corporation;
- \$1 million from the Lubert Adler Real Estate Fund; and
- \$2 million through the Maryland Department of Business and Economic Development Brownfields Revitalization Incentive Program.

In addition, nearly \$2 million came from tenants through reimbursements for improvements. Because the building is located in an Empowerment Zone and is on the National Register of Historic places, the developers received \$13.87 million in state tax credits and \$13.66 million in federal tax credits. The development partners put \$1 million in equity into the project

In the end, this project converted an 80 year-old historic structure into a state-of-the-art green building. To date, 540,000 square feet of space are leased. This represents 40 percent of the space in what is now the largest office building in Baltimore. Tenants include the NCO Group, a financial services firm; the Maryland Department of the Environment; the Maryland Lottery; and First Health. 1,800 people currently work at Montgomery Park, with a workforce of 3,500 to 5,000 projected. It is expected that ten percent of these jobs will be entry-level positions for low and semi-skilled workers.

Montgomery Park has also proven to be a true revitalization catalyst for its Baltimore neighborhood. Since the project was completed the economic viability of the area has increased dramatically. Private developers have begun to invest in nearby housing and commercial development projects and the City has developed a master plan for the nearby Carroll Camden industrial site. Because of its impact on the community and its unique environmental features, Montgomery Park was awarded the 2003 Phoenix Awards national grand prize.

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Using Brownfield Strategies to Achieve Success at Superfund & RCRA Sites



Many kinds of degraded lands other than brownfields are regulated by EPA, under authorities granted by Congress. Increasingly, in recent years, EPA has come to recognize the importance of returning these lands to productive use, using the brownfields revitalization model. For example, EPA has listed over 1,200 of the nation's largest and most heavily contaminated sites, generally referred to as Superfund sites, on the Superfund National Priorities List. Nearly all of these sites have at least some potential for revitalization and reuse as productive assets benefiting local communities. More than 300 of them are already being reused, or are in planning for return to use. Likewise, EPA has launched a "RCRA Brownfields Prevention Initiative" that helps resolve contamination issues to spur expansion and development on currently-operating sites that are subject to the waste handling and cleanup regulations of the Resource Conservation and Recovery Act (RCRA).

In 1999, EPA inaugurated a coordinated national effort, called the Superfund Redevelopment Initiative, to help communities return these Superfund sites to productive use by making sure that local officials, partners and stakeholders in communities near Superfund sites have the tools and information they need to plan for reuse. When communities are able to form a realistic concept of a likely future use for a site at an early stage in the cleanup cycle, EPA can integrate plans for future use of the land into the cleanup remedy process. EPA's first priority is always to make sure that its cleanups protect human health and the environment. But at the same time, the Agency is working with communities and other partners to help them plan for the time when the sites are returned to use, and taking steps to make its remedies consistent with likely future use. This gives communities the best opportunity to productively use sites following cleanup.

EPA's RCRA Brownfields Prevention Initiative was launched in June 1998, with the goal of encouraging the reuse of potential RCRA brownfields, namely, a RCRA facility, or a portion of a RCRA facility that is not in full use, where there is redevelopment potential, and where reuse or redevelopment of that site is slowed due to real or perceived concerns about actual or potential contamination, liability, and RCRA requirements. The RCRA Brownfields Prevention Initiative seeks to capitalize on the redevelopment of potential RCRA brownfields to achieve successful cleanup and long-term sustainable reuse of these sites.

The overwhelming focus at Superfund and RCRA sites is cleaning up contamination, but as Anaconda, MT, New Castle County, DE, and Muskegon Heights have demonstrated, a lot can be gained by also focusing on reuse.

ANACONDA, MT: Jack Nicklaus Helps Transform Superfund Site into World Class Golf Course

After nearly a century's worth of copper processing that released dangerous concentrations of heavy metals into the air, soil, and ground water, the Anaconda Smelter in Montana was listed as a Superfund site in 1983. Through hard work and cooperation between the local community,

site owner Atlantic Richfield Company (ARCO), State and Federal Agencies, and golf legend Jack Nicklaus, this contaminated property has been transformed into an award-winning golf course and hiking trail. This cleanup and redevelopment project has injected the local economy with new revenue, provided the state with additional income and sales taxes, and created 120 permanent, full-time jobs which generate more than \$480,000 in total annual income.

Nestled in the foothills of Montana's Anaconda-Pintler Mountain range, the Anaconda Smelter first began copper smelting operations in 1884. The 5,000-acre facility quickly rose to national prominence due to its astonishing annual copper production. When it closed its doors in 1980, the smelter left thousands of people unemployed and devastated the local economy. The copper processing operation also left behind an environmental legacy of more than 300 million cubic yards of contaminated tailings, slag (a by-product of the smelting process), flue dust, and soil.

In an effort to prevent Anaconda from suffering the economic collapse experienced by so many mining towns, EPA partnered with ARCO (the CERCLA potentially responsible party) and the Anaconda community to develop a cleanup plan that not only protected people and the environment, but also preserved the site's historical significance and allowed for redevelopment. Due to the large size of the property, EPA divided the site into 20 cleanup units. One of the units, the 1,500-acre Old Works/East Anaconda Development Area, became the focus for the construction of a world class golf course and educational nature trail.

To implement the cleanup and redevelopment plan, EPA developed an enforcement order with ARCO. Under EPA supervision, ARCO contractors covered the area designated for the golf course with thick clay and limestone cap and 18 to 20 inches of soil to support the golf course's



vegetation. A state-of-the-art irrigation system was also installed to ensure that no further contamination occurred on the site. Concerned citizens of Anaconda tracked the cleanup work and EPA's studies through a technical assistance grant from EPA. Anaconda citizens were also involved in the creation of a Comprehensive Master Plan that provided guidance for accommodating future development on and around the Anaconda Smelter site.

To design the golf course, ARCO turned to golf legend Jack Nicklaus, who had already designed courses on landfills in Michigan and lava fields in Hawaii. Nicklaus took advantage of the area's spectacular mountain vistas and incorporated many of the unique historic characteristics of the former smelting site, including flue and oven remains. The Old Works course is speckled with ebony bunkers that are filled with more than 14,000 cubic yards of inert smelting slag ground to the texture of sand. From the flowing fairways, golfers are graced with

views of the massive, 585-foot smokestack, which stands as a lingering reminder of the area's industrial past. Hikers can enjoy similar views from the historic hiking trail that winds its way around the golf course.

The Old Works Golf Course opened to the public in May 1997 and has brought new life to Anaconda. Tourism and recreation now support this once-mining town. The cleanup and redevelopment of the Anaconda Smelter site created 30 temporary and 120 long-term jobs,

which have brought about remarkable economic benefits. The golf course, which has been praised by Golf Digest as being "world class," has attracted tourists from across the country.

This influx of visitors has had an immediate and positive impact on annual revenue, property values, and local business investments. A \$6 million luxury resort is one such venture currently under construction. Likewise, the renewed interest in the area has promoted the continuing restoration of the mine-scarred landscape. For instance, the Old Works golf course features native grasses and more than 600 new trees. Nearby Warm Springs Creek, once utilized as a dumping ground by the smelting operation, now hosts a healthy population of trout. Thanks to a strong partnership between EPA, ARCO, and the local community, what was once an ugly eyesore and Superfund site is now a recreational and natural haven for both local residents and visitors.

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NEW CASTLE COUNTY, DE: Environmental Threat Becomes Environmental Treasure

The Army Creek Landfill was added to the Superfund National Priorities List (NPL) in 1983. An abandoned sand and gravel quarry, the 60-acre property operated as a landfill between 1960 and 1968 for the disposal of approximately 2 million cubic yards of municipal and industrial waste. During the rainy seasons, groundwater periodically rose above nearly 30 percent of the buried waste. This inundation leached harmful amounts of organic and inorganic chemicals into the soil and groundwater, contaminating nearby residential wells and Army Creek, a tributary of the Delaware River. Thanks to a unique agreement between the 18 potentially responsible parties (PRPs) and local, state, and federal government agencies, this contaminated property has been transformed into a vibrant wildlife reserve for various native terrestrial and aquatic wildlife species.

Groundwater contamination from the Army Creek Landfill was first discovered in 1971 in a residential well located in the adjacent Llangollen Estates housing development. Subsequent investigation of the underlying Upper Potomac aquifer identified a plume of chemicals migrating from the landfill. Harmful levels of organic and inorganic compounds were found in the groundwater. High concentrations of contaminants were also found in the surface water of nearby Army Creek. Further, the Artesian Water Company maintained a public drinking water supply well field only one-half mile from the landfill site.

At the time groundwater contamination was discovered, approximately 3,370 people lived within one mile of the landfill site and an additional 130,000 people lived within three miles. The wetland and upland area was also home to a variety of terrestrial and aquatic species. To minimize the immediate threat to human health and the environment, New Castle County, the owner of the blighted property, installed a series of groundwater recovery wells between the landfills and the public water supply wells. The County also financed the extension of Artesian's water supply lines to residents in Llangollen Estates.

The final cleanup decision entailed sealing the landfill with a multi-layer cap. To finance the remediation project, EPA entered into a Mixed-funding Consent Decree with 18 PRPs, including BP America, Chrysler, Du Pont, General Motors, ICI Americas, Hercules, and Waste Management. Severson Environmental Services, Inc. oversaw the construction of the 60-acre cap, which was completed in late 1993. During this construction period, Severson unearthed 52 drums of volatile and semi-volatile organic compounds. These drums were transported to

hazardous waste treatment, storage, and disposal facilities. A water treatment facility was also constructed on the property to treat contaminated ground water pumped from the recovery wells prior to its discharge to Army Creek. Groundwater recovery activities will continue until the cleanup standards are met at the property boundary.

As remediation progressed at the landfill property, EPA began to realize the potential of returning the site to productive use. After discussing options with local natural resources trustees, EPA decided to convert the site into a greatly needed habitat for native plants and wildlife. EPA collaborated with the US Fish and Wildlife Service and the Delaware Division of Fish and Wildlife to create a managed refuge that would provide migratory birds, small animals, and plants with a place in which to live, breed and grow. To attract wildlife back to the Army Creek site, native vegetation was planted and a mowing schedule was created so that birds and

Thanks to a unique agreement between the 18 potentially responsible parties (PRPs) and local, state, and federal government agencies, this contaminated property has been transformed into a vibrant wildlife reserve for various native terrestrial and aquatic wildlife species.

terrestrial creatures would have shelter and food throughout the year. EPA addressed flood problems in low lying areas by modifying the on-site discharge locations for the recovered and treated groundwater in order to create standing wetlands. The wetlands prevent erosion and surface water runoff, and provide a habitat for numerous species of plants, animals, and birds. In addition, EPA instructed the County to arrange for the restoration of the 225 acres of emergent wetlands adjacent to Army Creek. This restoration included the removal of invasive phragmites plants, which had choked out much of the native wetland vegetation.

Thanks to these efforts by the PRPs and the local, state and federal government agencies, a once-contaminated eyesore is now a sanctuary for Delaware's native plants, animals, and birds.

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MUSKEGON HEIGHTS, MI: From RCRA to Residential

For 50 years, the City of Muskegon Heights operated a municipal wastewater treatment plant at the Safety-Kleen facility in Muskegon Heights, Michigan, until 1974, when it was leased to a hazardous waste treatment company that treated electroplating wastes. The original lessee has been acquired by a series of other companies, the latest being Safety-Kleen. Michigan DEQ issued a closure certification for active units in August 1995, but the site was a low priority for State corrective action. In 1999, the site was selected as a RCRA Brownfields Prevention Pilot, with the ultimate goal of contributing to the economic revitalization of the City through the cleanup and redevelopment of brownfields.

At the present time, the risks to human health and the environment posed by the site are unknown. As a Pilot, Muskegon Heights seeks to develop a corrective action strategy between federal, state, and local stakeholders; negotiate a consent agreement for corrective action implementation; and obtain a comfort letter from EPA to help resolve purchaser liability concerns. Michigan is a RCRA-authorized state and has designated a staff person to serve on a RCRA Brownfields Prevention Pilot oversight team. This project will provide one of the first opportunities to apply the voluntary corrective action concepts in the Memorandum of Understanding (MOU) between Region 5 and the State of Michigan. Another proposed goal is to create a model for other owners and operators of RCRA facilities on how to voluntarily pursue corrective action.

The City has been approached by a developer to purchase the property and construct residential homes and a recreation area. The proposed housing and recreational area are needed to attract middle income families back to this urban community, where the unemployment rate is ten percent and the poverty rate is 33 percent. The City fully supports the redevelopment proposal, and resources for demolition will be leveraged from the state.

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Keys to Brownfields Success



The decade of progress in brownfields revitalization, and the efforts of hundreds of communities across America, have demonstrated a number of successful strategies for cleanup and reuse of these challenging properties. Although every community and every site is unique, there are common elements to the brownfields programs and projects that have worked. Any locality can unlock community and economic potential with an environmental key, by using these "10 Keys to Brownfields Success."

1 Field a Strong Brownfields Team with Leadership from the Top

Brownfields success is about people. Localities most successful in brownfields revitalization have set up brownfields teams that include prominent local leaders, a brownfields staff champion, and a cross-sector team of public and private supporters. The use of a well rounded local government team for brownfields can help the prospective end-users of these sites overcome the tough barriers to brownfields redevelopment. A local brownfields team can also bring together the cross-disciplinary skills necessary to address these complex environmental, economic and social challenges. In addition, the establishment of the right team helps ensure that the community's brownfields initiatives are sustained beyond the expiration of EPA brownfields grant funding or other start-up funding that launched these programs. A local brownfields team should include the following.

Leadership from Top Local Officials

Whether from the Mayor, City Council, City Manager, County Supervisor or a top agency official, the nation's top brownfields programs all receive leadership from high-ranking local officials. These officials are essential to providing the vision, building the community support, developing the partnerships, and obtaining the resources needed for a successful program. They also bring the private sector to the table, lobby for funding, testify in Congress, and speak at conferences to demonstrate their leadership. For example:

- ▶ Chicago Mayor Richard Daley has committed more than \$70 million to establish an aggressive local program that acquires and prepares brownfields properties for commercial and industrial redevelopment.
- ▶ Tom Suozzi, the former Mayor of Glen Cove, New York who was recently elected as County Executive for Nassau County, made the revitalization of the brownfields on Glen Cove's waterfront his top community priority. He is now implementing an ambitious brownfields program for the entire County.
- ▶ Mayor Dan Malloy of Stamford, Connecticut has made the revitalization of his City's Mill River Corridor his top economic development priority. By becoming a national spokesman on brownfields, Mayor Malloy has leveraged more than \$50 million in state and federal funding for land acquisition, transportation, affordable housing, greenway development, and other priorities that are components of his revitalization plans.

Interagency Team

Most successful brownfields programs have established local interagency teams, which serve several valuable functions. Different agencies bring the different skills and areas of expertise required for revitalization. By having all of the relevant agencies involved, the locality can create greater predictability in the development process and thereby enhance its credibility with the private sector. Moreover, the participation of multiple agencies provides a variety of entry points for property owners and developers interested in redeveloping brownfields. There are a number of different models for interagency teams, but virtually all have participation from at least the Mayor's office and the economic development, environmental, planning, finance, and legal departments. Many also include the local parks, public works, public health, housing, buildings and transportation departments. For example:

- ▶ In Chicago, the Mayor's Office has a point person who helps coordinate a team of senior officials from the departments of Planning and Development, Environment, Management and Budget (OMB) and Law. Planning and Development takes the lead in identifying the priority sites and negotiating the deals. Environment makes sure sites are properly assessed and cleaned up. OMB helps identify and secure funding. Law makes sure the deals can happen. In addition, the departments of Transportation and Buildings are often involved, depending on the specific project.
- ▶ The City Manager's office in Phoenix, Arizona established an interdepartmental Brownfields Task Force, consisting of representatives from nine city departments, to develop a formal program to encourage brownfields redevelopment by the private sector in Phoenix. City Council also unanimously approved establishment of the program with funding from the City's general funds and bond budgets.
- ▶ Lawrence, Massachusetts tackled this problem by establishing two interagency task forces — teams comprised of local, state, and federal representatives — that ironed out key issues, facilitated decision making, and coordinated the multiple regulatory issues connected with brownfields projects.

This interagency approach is key to brownfields success, because bureaucracy at the local level can kill brownfields projects. Many brownfield projects are burdened by high assessment and remediation costs and by long, drawn-out time frames — a situation that is only exacerbated when multiple government agencies are involved. An interagency team can promote one-stop-shopping for brownfields parties to help avoid these brownfields barriers.

It is important to emphasize that interagency coordination can yield important benefits that don't require any cash outlay by the city. In several cases, streamlining interagency coordination was critical in resolving overlaps in administrative jurisdictions and oversight. It saved the city staff resources, and the developer valuable time. Cities like Dallas and Detroit have used a brownfield "SWAT Team" approach, pulling people from different departments like planning and public works into a single brownfield unit. They can quickly deal with all types of situations that can come up in a brownfield reuse project. Moreover, this kind of approach has been replicated in small cities, like in the Southwest Municipal Conference consortium in Cook County, Illinois. There, officials from several communities have joined forces to identify experts from within the different cities, the county, and from around the state who they can call in when specific brownfield situations arise.

Local Brownfields Staff

Most successful programs devote some local staff to implementing their brownfields programs. Many, like Kansas City, Phoenix, and Nashville have at least one full time point person (usually a "Brownfields Program Manager" or "Brownfields Coordinator") assigned to spend all of their time and energy leading and coordinating the effort. Others, like Chicago, have several staff that are part of the brownfields team, and each devotes substantial time to brownfields projects.

Dedicated brownfields staff can also help overcome a common problem for most localities, namely, that no single office or entity is responsible for overseeing brownfields projects. Instead, myriad players from a range of departments must be coordinated, creating an administrative nightmare. All agree that establishing a *single* entity for oversight of brownfield initiatives is key. The Worcester Redevelopment Authority (WRA) in Worcester, Massachusetts is an example of such a framework. The WRA acquires properties, coordinates remediation, and facilitates site redevelopment work — acting as a "brownfields broker." Similarly, the Port of Seattle assembled under one lead manager a group of staff members who were dedicated to the Southwest Harbor redevelopment project. This team, which worked out of one office location, included members of the port's marine facilities as well as staff from legal, engineering, environmental, and finance offices.

Small and rural communities that may not have the resources to dedicate local staff to brownfields can explore collaborative approaches with other communities. For instance, a number of small communities could join together to hire expert staff assistance to work with all of the participating towns. Such staff could also be funded through regional planning and economic development agencies. For example, in the Asheville, North Carolina area, the Land-of-Sky Regional Council used EPA, Economic Development Administration, Appalachian Regional Commission, and other funding to organize a regional plan to revitalize brownfields and spark economic development across a region that includes four counties and 15 cities and towns. Four specific brownfield redevelopment projects are already underway since the effort began in 1998.

Technical expertise

The best local brownfields teams will make use of people with technical expertise in brownfields issues. With local technical expertise in assessment, cleanup, redevelopment planning, funding, permitting and other key issues, a community can facilitate both public and private sector revitalization. This approach can save time, money and uncertainty for the parties involved in a brownfields project. In larger localities with greater resources and a number of brownfields projects, this expertise can be brought in house onto the local staff. In smaller communities or areas with a more limited number of brownfields, the locality can contract technical expertise with experience in local brownfields revitalization (and, this could potentially be funded by EPA assessment grants). In some regions, localities have joined together to fund and share technical personnel who can then act as "brownfield circuit riders" among various communities. See, *e.g.* the Indiana Association of Cities and Towns, Environmental Circuit Riders program at www.citiesandtowns.org/content/member_resources/environment_DHT.htm.

Further Resources:

[Brownfields Blueprints: A Study of the Showcase Communities Initiative](#), International City/County Management Association & the Northeast-Midwest Institute (2001)

[Lessons from the Field: Unlocking Economic Potential with an Environmental Key](#), by Charles Bartsch, Northeast-Midwest Institute (1997)

② Connect Brownfields with Community Revitalization Priorities

Communities will succeed in brownfields revitalization when they consider these properties as community and economic opportunities that happen to have an environmental challenge, and connect their brownfields initiatives to the broader community vision and revitalization priorities. If the citizens and leadership of the community have identified priorities such as affordable housing, the attraction of retail and commercial businesses, the creation of parks and recreational spaces, the renewal of a local waterfront, or the reverse of blight in particular neighborhoods — brownfields should be viewed as places for these opportunities, rather than places to avoid and forget about.

A community that considers a brownfield in terms of the community's economic, real estate and community revitalization potential — rather than only as a pricey pollution problem — will be better able to attract political leadership, organize partners and allies, obtain resources, establish workable cleanup strategies, and build citizen confidence. This approach to brownfields turns them from liabilities into potential assets. This approach creates the atmosphere of cross-sector and cross-disciplinary cooperation that is essential to brownfields success. Under this revitalization approach, local communities can fit the challenge of environmental contamination into a larger framework that can help overcome that challenge.

The City of Stamford, Connecticut is an excellent example of a locality that has used brownfields as an opportunity to achieve larger community revitalization goals — to expand its public transit infrastructure, restore the Long Island Sound and Mill River waterfront for public enjoyment, create new market rate and affordable housing, and attract business investment. Rather than shirk Stamford's contaminated brownfields, Stamford has considered its brownfields as prime real estate for revitalization, and used the brownfields aspect of these sites to obtain substantial funding and support from government and the private sector.

Other examples of communities that have effectively used brownfields as a tool to enhance their ongoing community revitalization priorities include the following:

- ▶ Portland, Oregon's brownfields strategy focuses on redeveloping old warehouses, gas stations, dry cleaners, and other blighted properties that are impacting the City's most disadvantaged neighborhoods.
- ▶ St. Paul, Minnesota's brownfields strategy is focused on attracting new commercial and industrial business that will provide high wage jobs for City residents.
- ▶ Salt Lake City, Utah and Bridgeport, Connecticut are using their brownfields programs to help leverage substantial federal and state funding for light rail, transit centers, and roads essential to the revitalization of their communities.
- ▶ Providence and Kansas City have integrated the development of riverfront greenways into their brownfields programs and leveraged substantial support for these efforts.
- ▶ Glen Cove, New York, East Palo Alto California, Des Moines, Iowa and numerous other communities are rediscovering the value of their waterfronts and conducting major revitalization of these underutilized areas that were once home to the industries of the past.
- ▶ Salt Lake City and Portland have integrated their brownfields strategies with their efforts to provide a wide range of urban housing options, in terms of style and affordability.

Many localities have missed out on the potential for brownfields revitalization because they have considered these properties only as polluted sites, or even perceived them as potential Superfund-type problems. However, in at least one-third of the brownfields sites that have been investigated using EPA brownfields funding, there was no contamination at all. In most cases where there is brownfield contamination, it has typically proved to be manageable, when put into the larger context of a community revitalization project. Communities can connect brownfields to their broader revitalization priorities and opportunities by:

- ▶ Fitting the environmental challenges of brownfields into the larger vision and goals of the local community in terms of economic development, urban renewal and beautification, infrastructure upgrades, infill housing, historic preservation, land use or other revitalization initiatives.
- ▶ Engaging local, state and federal government economic development programs and resources in the brownfields challenge, by showing economic development partners that every dollar invested in brownfields revitalization can yield major returns through increased property values, enhanced tax base, and job creation. The *Brownfields Performance Evaluation Report*, by the International Economic Development Council, found that every dollar of

government funding invested in brownfields projects yields, on average, 2.5 dollars in private sector investment.

- ▶ Realizing the community and economic benefits of turning brownfields into parks, open space and green infrastructure. New community green space can create an economic premium for adjacent commercial and retail development and generate the spin-off development that can result from the replacement of blight with community amenities.

Brownfields revitalization offers the opportunity for truly sustainable development that meets environmental, economic, and community goals. By connecting brownfields to these broader opportunities, communities can achieve their community revitalization objectives.

Further Resources:

Brownfields Redevelopment: Performance Evaluation, International Economic Development Council (1999)

Converting Brownfields to Greenspace, International Economic Development Council (2001)

Growing Greener: Revitalizing Brownfields Into Greenspace, by Danielle Miller Wagner and Riti Dhesi, International City/County Management Association (2002)

From Brownfields to Housing: Opportunities, Issues, and Answers, by Danielle Schopp, Northeast-Midwest Institute (2003)

Coordinating Brownfields Redevelopment and Local Housing Initiatives, International City/County Management Association (2003)

Old Tools and New Measures: Local Government Coordination of Brownfields Redevelopment for Historic and Cultural Reuses, by Molly Singer and Adam Ploetz, International City/County Management Association (2002)

National Vacant Properties Campaign, at www.smartgrowthamerica.org

3 Begin with the End in Mind

Brownfields projects have much greater success when the local community first identifies the potential reuse of the idled, contaminated property. This end-use approach can help focus the environmental remedial response, attract private investors and public resources, and build the community consensus to see the project through. Too often, localities will spend many months and many dollars on brownfields cleanup, without any real plans for how the property will be utilized. This cleanup-first approach has resulted in projects becoming stalled, the loss of community stakeholder support, or even remedial efforts that prevent the future use from taking place, because the site is not cleaned in the way necessary to support that use. Instead, local communities should build consensus around prospective end uses first, and then work backward through cleanup to get those goals accomplished.

Brownfield initiatives should dovetail with a community's plans for growth. For example, where brownfield redevelopment is part of a concerted downtown revitalization program, it stands a better chance of securing public and private investment, as well as gaining political and community support. In Chattanooga, Tennessee, cleanup and reuse of riverfront property dovetailed with the city's broader Vision 2000 initiative that sought to revitalize neighborhoods, remediate the environment, and attract new businesses throughout the city. Likewise, in Lawrence, Massachusetts cleanup and redevelopment of the old Oxford Paper plant

seemed financially unfeasible until city personnel thought to "piggyback" the project with a nearby highway expansion, allowing Lawrence to draw on much-needed state highway funds for demolition and remediation.

A community can begin with the brownfields end in mind in the following ways:

- ▶ Begin a brownfields program and individual brownfields projects with a community workshop or "design charrette" that gathers all the key stakeholders, assesses local needs, reviews the parameters of targeted brownfields properties, and creates a reuse vision. EPA brownfields assessment grants can now be used for such planning activities, as can funding from the Economic Development Administration (EDA) and the National Oceanographic and Atmospheric Administration (NOAA). In Glen Cove, New York a multi-million dollar waterfront development began with a community design workshop led by architectural students and funded with a small grant from NOAA.
- ▶ Gather information on successful brownfields projects in other communities that feature your intended end use. For example, if a community seeks to turn a brownfield into a golf course, check out some of the successful projects supported by the Professional Golfers Association and the "First Tee" golf organization. Or, to explore converting abandoned gas stations into retail outlets, check out EPA's USTfield initiative at www.epa.gov/oust, or "Recycling America's Gas Stations" at www.nalgep.org.
- ▶ Use a picture to speak a thousand words. Once a reuse plan is created, use Geographic Information System or other mapping techniques to visually display brownfields revitalization target areas. For individual projects, create an artist's conception or model of the future intended use, and utilize that vision to gain community support and project resources. In Des Moines, Iowa, a pictorial vision of the "Agri-Mergent Technology Park" is sparking imagination and fueling the City's efforts to fund and plan for a new economic development initiative in an old industrial area.
- ▶ Organize the end use around the remedial challenges at the site. For instance, if the project requires an asphalt parking lot, it could be placed atop an area of contamination to prevent exposure to soils or safely contain environmental and health risks. Many Home Depots have been built on contaminated lands, and used the parking lot as a "remedial cap" to protect public health from the pollution in a cost-effective manner.
- ▶ Use the end-use vision to recruit the right private sector and state and federal government partners for the initiative.

Knowing the destination for local brownfields projects can help a community take the first steps in the right direction. This end-use approach even works when the ultimate use of the property changes over time or local political leadership changes, because the approach is effective in creating a community vision for reuse, and organizing partners, resources, and tasks.

Further Resources:

National Charrette Institute, at www.charretteinstitute.org

Project for Public Spaces at www.pps.org

Putting Brownfields on the Map: Using GIS to Coordinate and Facilitate the Brownfields Redevelopment Process, by Elizabeth Stasiak, International City/County Management Association (2002)

4 Involve Citizens from the Start

Community involvement and consensus is one of the most important ingredients for a successful brownfield project. Education and involvement of a broad range of stakeholders, including community and neighborhood organizations, is important to the success of local brownfields programs and specific brownfields projects. It is especially important to involve local neighborhood groups early in the redevelopment process to ensure that their input is considered in the initial reuse planning stages. Early involvement helps ensure community support for projects and generally provides greater certainty to private developers that the projects will proceed as planned.

In most successful local brownfields projects, proactive public outreach and involvement plans were implemented from the outset. In Minneapolis, community participation was central to the redevelopment of the Johnson Street Quarry into a discount shopping center. The Minneapolis Community Development Agency (MCDA) assembled a neighborhood task force, which met monthly in a televised public forum to discuss project plans. In a written report, the group expressed numerous concerns about traffic, noise, and public safety and called on the city to implement a series of traffic control measures and infrastructure improvements before it would support the initiative. The City and developers agreed to implement the task force's recommendations, so the project moved forward with strong public support. After the project was completed, the developer stated that the community's input had actually resulted in a better project that will produce higher financial returns than expected.

Most good brownfields programs establish advisory groups or other mechanisms to work with the broad range of brownfields stakeholders including developers, lenders, property owners, community and citizen leaders, environmental leaders, and local, state, and federal government officials. These stakeholder groups enable localities to build community support for the program, leverage public and private sector investment, and overcome barriers to redevelopment. These stakeholder groups are particularly useful in helping localities conduct effective community involvement processes to ensure community support for specific redevelopment projects. They are also useful in reaching out to the private sector and ensuring they are active partners in the local program.

Many communities have established special work groups or task forces to focus on specific issues such as brownfields financing, regulatory barriers and community outreach and involvement. For example:

- ▶ Chicago's Brownfields Forum, established in 1994, paved the way for the creation of the City's nationally recognized brownfields program. The work groups on brownfields financing and redevelopment barriers continue to meet and recommend improvements to the program.
- ▶ Baltimore has established an ongoing group of brownfields business leaders who meet regularly to identify strategies to overcome brownfields regulatory and financing barriers in the City. One outcome of this group was the publication of a "Guide to Private Financing of Brownfields Redevelopment," which included a directory of lenders in the area.
- ▶ Westminster, Colorado established a work group of banking and other financial institutions as a mechanism to overcome the reluctance of lenders to provide financing for brownfields projects. This process helped to educate lenders about brownfields and helped give them confidence that they could profit by financing redevelopment projects.
- ▶ The small cities of Charles Town and Ranson, West Virginia have formed a multi-stakeholder "Commerce Corridor Council" to guide and support their joint effort to redevelop a blighted corridor of brownfield properties into a "Commerce Corridor" of commercial, retail, institutional and park uses. The Commerce Corridor Council includes municipal officials, County officials, brownfields property owners, business leaders, high-

tech leaders, bankers, citizen groups, state and federal agencies, and political leaders who convene periodically to guide the overall project and endorse initiatives.

- ▶ Stamford, Connecticut worked closely with a private developer and local community organizations to convert an old oil depot and shipbuilding factory into a mixed income housing development overlooking Long Island Sound. The neighborhood organizations provided input on the type and affordability levels of the housing, environmental cleanup, local improvements and amenities, as well as other neighborhood issues.
- ▶ Des Moines has established a "Good Neighbor" process under which the City, private developers and neighborhood organizations meet regularly to discuss plans and issues related to the development of the Des Moines Agri-mergent Technology Park.
- ▶ East Palo Alto has conducted a comprehensive planning process involving community leaders, local property owners, and potential developers to create the vision for the redevelopment of the Ravenswood Industrial Area into a mixed use project with commercial office space, housing and light industry. The process was so successful that the local property owners have agreed to form a limited liability corporation and tax themselves to help fund infrastructure and other site improvements.

Community involvement in a brownfields redevelopment must not be approached as "business as usual." Instead, it requires an approach that provides benefits for various stakeholders, and involves a paradigm change in practices and attitudes. Community involvement is not just public entities "telling what is happening;" rather, it is extending horizons and engaging stakeholders in identifying concerns and designing strategies for resolving those concerns. It typically requires additional staff resources to succeed, and localities and other interested parties must work to provide them. State and federal agencies need to be flexible in allowing their program resources to be used for these purposes.

Officials cannot assume that stakeholder wants and needs are known. Proactive strategies are needed to bring their concerns and visions to light, and to move the various stakeholders towards consensus. In practice, effective strategies involve significant leg work — getting out door-to-door, in the business, financial and residential communities is essential.

Local brownfields managers need to acknowledge that cookie cutter involvement structures do not work, and routine public hearings and comment periods do not suffice. Existing participation mechanisms may be used, but they will likely need to be expanded and adapted to fit the circumstances, particularly by bringing people from all stakeholder groups together early and frequently in the process. One good source of potential resources for community outreach and stakeholder education is EPA's "Technical Assistance for Brownfields" program, which provides university-based resources and assistance for brownfields community participation projects.

Further Resources:

[Community Involvement in Brownfields Redevelopment](#), by Charles Bartsch & Barbara Wells, Northeast-Midwest Institute (2003)

[Community Advice: A Constructive Approach to Brownfields](#), by Lenny Siegel, Center for Public Environmental Oversight, at www.cpeo.org/pubs/comadv.html (Sept. 2001)

[Brownfields Redevelopment: Meeting the Challenges of Community Participation](#), by the Pacific Institute (2000)

[EPA Technical Assistance for Brownfields program](#), at www.toscpprogram.org/tab-overview.html

5 Engage the Private Sector & Reduce Its Risk

Most brownfields properties will be revitalized by the private sector, with the support of private finance. Thus, local communities must understand private sector needs, increase private sector certainty, help reduce private sector risk and costs, and facilitate private sector strategies and investment.

Many brownfield projects have inherent risks that make them different from typical development projects — risks stemming from lack of certainty and potentially higher costs. Lack of certainty at brownfields can often result from a variety of reasons, such as:

- ▶ the presence and extent of contamination may be unknown;
- ▶ the potential costs for cleanup are undetermined;
- ▶ the requirements for regulatory sign-off on the cleanup plan are perceived to be unpredictable;
- ▶ the time frames for development approvals are indefinite; and
- ▶ the prospects of community and neighborhood acceptance of the brownfields redevelopment are unsure.

In addition to higher uncertainty, the potentially higher costs of brownfields redevelopment add to private sector risk. These costs can include: site assessment and cleanup, transaction costs (permitting, regulatory compliance, attorneys, remediation consultants); and the costs of stigma associated with contaminated properties.

In addition, developers often incur other start-up costs on brownfields projects. For example, they may need to pledge a higher rate of return to their investors or lenders to persuade them to take on a project with greater perceived risk. Sometimes, this "brownfield premium" translates into an extra 10 to 20 percent return on investments, or an additional interest point or two on a loan rate. Reuse projects on contaminated sites may also be more expensive in terms of planning, design, and community outreach activities. In the case of brownfields, basic project underwriting costs are more extensive; to achieve a necessary level of comfort with the risk of the project, lenders will likely require environmental data collection and analysis, additional testing, legal analysis, and additional independent corroboration on collateral value. All of these costs can add significantly to loan processing and review procedures. Some banking analysts have estimated that these transaction costs have tripled since the emergence of the brownfield issue a decade ago.

Finally, lenders tend to impose a number of conditions on the financing that they provide for contaminated properties. They usually require developers to have at least 25 percent equity in the project as a kind of seriousness threshold, to make sure that the borrower has sufficient capital at risk. Further, most banks use an informal rule of thumb that cleanup costs can not exceed 25 percent of the fair market value of the property once it is clean.

As a result, many developers have been unwilling to take on brownfield projects, and many property owners have been unwilling to sell their properties for fear of the redevelopment difficulties. Likewise, many financial institutions have been unwilling to invest in brownfields or lend money for these projects. All of these factors of cost and uncertainty can raise private sector risks at brownfields and impact brownfields deals.

But the communities can help reduce these risks they understand the time pressure of development, and the need to streamline the local approval process and integrate it with brownfields regulatory and finance processes. Approaches like interagency local teams and strong working relationships with state and federal government counterparts are essential for making brownfields competitive for revitalization. Ideally, local development approval processes will be integrated with state brownfields regulatory programs, so that private sector redevelopers can navigate these multiple approval processes with a minimum of delay and bureaucratic barriers.

Communities also need to understand private sector funding and lending practices and realities in order to make brownfields attractive investments. In the final analysis, the private sector's approach to brownfield financing is influenced by the key factor of risk—the chances that problems are likely to arise with a project, relative to the potential payoff. Likewise, risk is the number one concern of lenders, who seek to quantify, avoid, and manage this risk. To the lender, brownfields are first and foremost real estate deals complicated by environmental risks. Understanding these risks will help local governments to educate the private sector on how to overcome them.

Even though Congress addressed basic lender liability concerns in late 1996, and created additional liability clarifications for the private sector in the Brownfields Revitalization Act of 2001, many lenders are still uncomfortable with these types of projects. Financing institutions like to limit their lending to low-risk propositions. Basically, this means that lenders are most comfortable financing things that they know. In practice, this means that a bank or loan officer who has only financed chain stores in suburban malls may categorically reject a project that involves a commercial building rehab on a central city brownfield site.

Localities can help reduce lender risk and boost lender confidence at brownfield sites by leveraging public funding in strategic ways. Often just a few thousand dollars is needed to jump-start a brownfield reuse project and reduce its risk to a level that the private sector will accept. These efforts work best and most cost effectively when they:

- ▶ **Reduce the lender's risk** to make more capital available. Incentives such as loan guarantees or companion loans can ensure a minimum return, or limit the borrower's exposure due to unforeseen problems that affect the value of collateral or the borrower's ability to pay.
- ▶ **Reduce the borrower's cost of financing to make capital more affordable.** Local officials have used approaches such as subsidizing project loan interest costs (for example, with tax-exempt financing or low-interest loans), or by reducing loan underwriting and documentation costs (perhaps with loan packaging assistance or technical support often available through community development corporations and other local institutions).
- ▶ **Offer terms or incentives to ease the borrower's redevelopment situation.** Tools such as tax abatements, tax credits, or grace periods can help improve the project's cash flow, and make it more likely that the project numbers will pencil out. Similarly, training and technical assistance services can offset a user's start-up costs and allow available cash to be devoted to meeting brownfield needs.
- ▶ **Provide direct financing help.** When contamination is suspected, money for site assessment and cleanup is the hardest piece of the financing puzzle to solve. Therefore, more and more cities are fronting money for this purpose, as grants or forgivable loans.

Communities can help convene private sector and business stakeholders for the support of brownfields projects. Often these peer-to-peer forums can educate the business community about new approaches on brownfields, the use and benefits of state voluntary brownfields cleanup programs, and the availability of financial resources. These activities work best when the community recruits top business-people to endorse and lead these stakeholder education efforts.

Community should understand and promote the use of environmental insurance as a strategy for reducing the risk at brownfields for private sector parties. There is a whole new wave of insurance mechanisms that aim to bring certainty to brownfield financing risks. Environmental insurance can facilitate brownfields acquisition or sales; help satisfy regulatory responsibilities; minimize liability for past, present or future operations; and the cap site remediation costs.

Insurance can help deals close more easily, because (1) unexpected cleanup costs encountered during the development process will not add to the developer's anticipated costs; and (2) insurance can cover the possibility that the costs of additional contamination will not affect the site reuser's ability to pay off mortgages or other notes.

The four most common types of insurance tools used to facilitate brownfield projects are:

- ▶ **environmental remediation insurance**, for releases that occurred before the policy was written but discovered after the policy was in place. More and more lenders are requiring environmental remediation insurance to give them some comfort and cover;
- ▶ **stop-loss or cleanup cost-cap coverage**, which protects against cost over-runs once a cleanup plan is defined, or against additional costs resulting from changes in regulatory standards;
- ▶ **pollution legal liability insurance**, which offers protection against problems stemming from the migration of contamination to other sites, or for third-party and property injury claims; and
- ▶ **secured creditor insurance**, which insures the balance of loans when the borrower defaults and there is an environmental condition on the property.

A few states have started to explore ways to enhance the availability of brownfield insurance at sites within their borders. Some cities and states are linking small developers or site owners with insurers, or helping to form a portfolio of sites to spread risk and costs. For example, in 1999, Massachusetts adopted a new state program that set up a \$15 million fund to subsidize site reuser's environmental insurance costs, up to 25 percent. The Massachusetts program has been used at more than 160 sites, leveraged \$75 million for cleanup, helped create \$1 billion in new brownfields investment, and contributed to the creation of 11,500 new jobs. California and Wisconsin are also exploring environmental insurance strategies. Moreover, localities can now use EPA brownfields assessment and cleanup grants to pay for environmental insurance premiums.

Further Resources:

Environmental Bankers Association, at www.envirobank.org

Brownfields Redevelopers Association, www.brownfieldslaw.com

National Brownfields Association, www.brownfieldsassociation.org

Environmental Insurance for Brownfields Redevelopment, U.S. Department of Housing and Urban Development (1998), at www.huduser.org/publications/econdev/envins.html

Insurance and Brownfields Redevelopment, at www.epa.gov/brownfields/insurebf.htm

Urban Land Institute, at <http://www.uli.org/>

6 Make Cleanups Work for You

Brownfields success ultimately involves overcoming environmental cleanup challenges at contaminated sites. Communities and brownfields redevelopers are using new strategies to avoid making environmental costs the brownfields deal-breaker. Communities can make cleanups work and reduce brownfields risk by understanding the brownfields cleanup process; linking cleanups to land use; using risk-based remediation and institutional controls; and using innovative cleanup technologies. While this Key to Brownfields Success focuses on the technical issues of cleanup, keep in mind that brownfield cleanup requirements are typically established by state “voluntary cleanup programs” or VCPs, which are discussed in greater detail below in Key #8.

Local officials should understand the brownfields cleanup process. The objective of brownfields remediation is to investigate the presence and extent of contamination (if any) and

conduct any necessary cleanup to ready the site for redevelopment. This process is necessary to protect public health and the environment, address liability concerns of property owners, create certainty for developers, and remove the stigma associated with the properties.

As mentioned previously, localities can obtain funding for brownfield site assessments and cleanup from EPA as well as other sources. Localities typically hire environmental consulting professionals to conduct these activities for the community. By understanding the basics of the assessment and cleanup process, communities can integrate cleanup with reuse and economic development plans for brownfield sites and avoid wasted resources and uncertainty.

Environmental Assessments

Localities often play a key role in fostering and overseeing environmental investigations to prime the pump for brownfields revitalization. In many cases, sites get a clean bill of health and no remediation is required. EPA reports that about one third of the sites that have received assessment funding, have not required any cleanup. In others, the investigation often shows that the cleanup is much less than originally anticipated. For example, officials and the private sector originally feared that cleanup of the Ravenswood Industrial Area in East Palo Alto, California would cost more than \$30 million. However, after EPA spent about \$100,000 in targeted assessment funding on soil and groundwater testing and screening, the cleanup estimate was reduced to less than \$5 million. The reduced cleanup cost and the increased certainty provided by the site investigation has dramatically increased private sector interest in redeveloping this 130 acre property located on the San Francisco Bay in Silicon Valley.

Phase One Site Assessments—The first step is a Phase One environmental assessment, which researches and considers past owners and uses of the property to determine the likelihood of a release of contamination—but does not involve physical sampling at the site. For many years, the industry standard for brownfields Phase One assessments has been the “ASTM-1527” process adopted by the American Society for Testing and Materials. Under the new federal Brownfields law, however, communities who want to receive EPA brownfields funding and who seek to avoid potential Superfund liability will be required to demonstrate that they have conducted “all appropriate inquiries” (AAI) to determine the potential presence and extent of contamination at a site. EPA recently published the proposed rule establishing AAI standards. The rule represents a consensus achieved during a regulatory negotiation process among a multi-stakeholder advisory committee. EPA anticipates that the rule will be final in 2005.

The AAI standard will require that a party involved in brownfields take certain due diligence steps to ascertain the levels of contamination at a site. These AAI standards are very likely to become the de facto Phase One assessment standard used by public and private parties across America. However, communities should also learn and understand any environmental assessment standards peculiar to their state.

The AAI standard will require prospective purchasers of brownfields and other brownfields parties (including localities using EPA grant money for brownfields assessments) to look at the following factors in the brownfields assessment process:

- ▶ Results of an inquiry by an environmental professional;
- ▶ Interviews with past and present owners, operators and occupants of the site;
- ▶ Reviews of historical sources of information about the site;
- ▶ Searches for recorded environmental cleanup liens;
- ▶ Reviews of federal, state, tribal and local government records;
- ▶ Visual inspections of the facility and adjoining properties;
- ▶ Any specialized knowledge or experience you have with respect to the site;
- ▶ The relationship of the purchase price to the market value of the property, if the property was not contaminated;

- Commonly known or reasonably ascertainable information about the site; and
- The degree of obviousness of the presence or likely presence of contamination at the property, and the ability to detect the contamination by appropriate investigation

For further information on this issue, check www.epa.gov/brownfields for the AAI rule and explanatory documents.

Phase Two Assessments — If a Phase One environmental assessment shows that there has been a release of contamination at a site, the next step in the brownfields cleanup process is to conduct a Phase Two environmental assessment, which involves physical sampling and monitoring of potential contamination in the soil, structures, ground and surface waters, or air at the site. Phase Two activities, which can involve a wide variety of geologic, hydrogeologic and other assessment methods, are meant to identify the specific types and locations of contamination at a brownfield. This assessment is also designed to determine the potential “pathways to exposure” that may be available for contamination at the site, such as surface contamination or a groundwater plume.

Use Cleanup Strategies that Focus on Risk and End Use

Most states have identified several tiers of cleanup standards - industrial, commercial, and residential (or “background”). These cleanup standards are typically tied to the future intended use of the property. For example, if a site is intended for reuse as a manufacturing facility, it may not be necessary to remove all contamination from the site, because there is low risk of exposure to such contamination. These approaches can be effective at protecting the public yet much less expensive than traditional “dig and haul” cleanups that can make brownfields deals unworkable from a cost standpoint.

Numerous states also have some form of “risk-based corrective action” (RBCA) process in place. RBCA allows cleanup approaches focused on removing contamination that presents an actual risk to human health or the environment. Such risk is often based on whether there are pathways to exposure for the contamination, such as pollution in the surface soil that could come in contact with people accessing the site, or a stream that could carry pollution to other places.

Cleanup standards and land use controls can be established that allow some contamination to be managed in place so that it does not result in exposure to the public or the environment. At the same time, these standards must be sufficient to address any environmental problems, and acceptable enough to remove any stigma that the contamination has generated at a site.

Institutional Controls

In states that allow risk-based, tiered cleanup standards based on the future use of the brownfield site, institutional controls are important to provide long term protection for the public and the environment. Institutional controls are legal tools meant to ensure that a brownfield is used only as intended so as to limit the risk of exposure to contamination from the site. For example, institutional controls are designed to ensure that a brownfield cleaned up to industrial standards for reuse as a new manufacturing facility is not converted to a day care center thirty years from now. Legally, institutional controls take two forms - proprietary controls and governmental controls. Proprietary controls are often placed in deeds, which are recorded by city and county officials. These deed controls involve covenants, easements, or other restrictions on the use of the property, limiting them to those consistent with the agreed-upon level of cleanup.

Governmental controls involve restrictions that are generally within the traditional police powers of state and local governments. The most common types are permit programs, planning, and zoning limitations on land use. In practice, they may involve things like using a parking lot for a site cap, or installation of monitoring wells. But no matter what form they take, institutional controls must prevent an unanticipated change in land use that could result in unacceptable exposures to residual contamination. Enforcement concerns still need to be

addressed; someone has to monitor them, and to make sure that they are continued and not altered for future uses. Most states also require some mechanism for recording and transferring this information to future site users.

An example of the benefits of the institutional controls approach to brownfields redevelopment can be seen in Louisville, Kentucky, where the Papa John's Louisville Cardinal Stadium at the University of Louisville was built on a former 92-acre rail yard. The contamination at that rail yard had thwarted redevelopment for many years. Instead of removing several million gallons of diesel fuel and other suspended petroleum products in the soil, Louisville-Jefferson County officials chose to tackle those challenges by designing and implementing land use controls. The stadium itself caps a good deal of contamination left in place by the rail yards, and the asphalt parking lot caps the remainder. Monitoring wells continue to operate on that site.

Innovative Brownfields Technologies

Many communities are realizing significant cost savings by implementing innovative assessment and cleanup technologies and approaches. In Lawrence, Massachusetts, for example, a soil vapor extraction system was utilized to treat contaminated soils on-site, rather than sending them off-site for incineration. In Worcester, Massachusetts, officials used ground-penetrating radar to identify the location of underground storage tanks. Cleanup costs at the Ernst Steel site in Cheektowaga, New York were offset by the use of a new hydrogen sulfide liquid treatment that immobilized lead in soils—a process that saved the company upwards of \$300,000. In Williamsport, Pennsylvania groundwater contamination from an airplane engine factory is being treated by injecting molasses into the aquifer. Basically, microbes eat the sweetened water, which depletes the oxygen in the water, which in turn causes toxic chromium to change into a harmless form that binds to the soil. Trenton, New Jersey and Staten Island, New York have used phytoremediation or vegetation-based approaches for cleanup. Trenton has used mustard plants to pull the lead out of the soil at the old Magic Marker site, while Staten Island has used willow trees to suck chrome and other toxics out from the ground at an old refinery.

These examples show why it is important for local development practitioners to keep in touch with state and federal environmental agency experts, who can link them and the developers they work with to information on new technologies that can bring site preparation and cleanup costs down. The EPA Technology Innovation Office provides information and technical assistance on characterization and treatment technologies for the hazardous waste remediation community. It offers technology selection tools and describes programs, organizations, publications for federal and state personnel, consulting engineers, technology developers and vendors, remediation contractors, researchers, community groups, and individual citizens. The Office has engaged in a number of technology demonstration and evaluation projects in support of local communities.

Further Resources:

U.S. EPA, All Appropriate Inquiry web site, at www.epa.gov/brownfields/regneg.htm

American Society of Testing and Materials, Committee E-50 on Environmental Assessment, Risk Management, and Corrective Action (includes many standards on brownfields, including 1527-00 standard on Phase I environmental assessments), at www.astm.org/cgi-bin/SoftCart.exe/COMMIT/COMMITTEE/E50.htm?L+mystore+zrjs1975+1069349312

Interim Guidance Regarding Criteria Landowners Must Meet in Order to Qualify for Bona Fide Prospective Purchaser, Contiguous Property Owner, or Innocent Landowner Limitations on CERCLA Liability, U.S. Environmental Protection Agency, Office of Site Remediation Enforcement (2003)

Institutional Controls: A Draft Guide to Implementing, Monitoring, and Enforcing Institutional Controls at Superfund, Brownfields, Federal Facility, and RCRA Corrective Action Cleanups, U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response (2003)

Long-Term Stewardship and Implementation of Institutional Controls, John Pendergrass, Environmental Law Institute (2002)

The Role of Institutional Controls in Brownfields Redevelopment, by Edward McTiernan, International City/County Management Association (2002)

Implementing Institutional Controls at Brownfields and Other Contaminated Sites, by Amy L. Edwards, published by American Bar Association (2003), at www.abanet.org

Beyond Fences: Brownfields and the Challenges of Land Use Controls, International City/County Management Association (2000)

Brownfields State of the States, Northeast-Midwest Institute (2002)

U.S. EPA Technology Innovation Office, at www.epa.gov/tio

Interstate Technology Regulatory Council (ITRC) - www.itrcweb.org

Understanding Innovative Technology Options for Brownfields Investigation and Cleanups, 3rd Edition, U.S. Environmental Protection Agency (2001)

The Brownfields Technology Support Center at www.brownfieldstsc.org

7 Leverage the Funding

Funding is essential for turning a community's brownfields vision into real results.

However, because there is usually no single source of money to complete the many facets of a brownfields project, the most successful communities will leverage a variety of public and private sources for brownfields revitalization. Local funding can make the critical difference on brownfields projects. Localities are uniquely positioned to provide direct funding and gap financing incentives for brownfields revitalization, and to leverage additional state, federal, and private resources. Key #7 focuses on the role of local funding and incentives, while Key #8 looks at state funding and Key #9 identifies federal resources for brownfields.

The key role of localities in leveraging public and private funding for brownfields is especially important at "upside down" sites, where contamination costs might exceed real estate value. For instance, in Bridgeport, Connecticut, Westinghouse has spent over \$1 million to clean up the Bryant Electric facility and \$700,000 on demolition and site preparation. Expenses on this four-acre parcel, therefore, have totaled \$2 million, or \$500,000 per acre. Bridgeport officials note that an average four-acre clean parcel in the West End would be one quarter that price, or \$125,000 per acre.

In Louisville, Kentucky, the City has been working with an expanding business to acquire an adjacent, contaminated property that has been abandoned for nearly a decade. This project has been complicated by a wide array of factors, including environmental contamination at the site and uncertain remediation requirements. Without involvement by the City of Louisville, this deal likely would have gone nowhere. The City served a critical role as "brownfields broker," overseeing relations between the Kentucky DEP, the Landbank Authority, and the prospective purchaser, Louisville Dryer Company. In addition, the city dedicated funds to this

project, for personnel and site assessment, from grant money provided under EPA's Brownfields Assessment Pilot Program. Because of the City's involvement, Louisville Dryer Co. remained involved in a real estate transaction that it might otherwise have abandoned long ago.

This is how the public sector can drive brownfield reuse. But competition for public monies is increasingly fierce, so it is important for local officials to recognize that — for many projects — resources devoted to brownfields are public investments that are often recoverable, either through sale of the site, or from new tax revenues and jobs that the project generates. These public investments can also leverage additional private investment by helping to demonstrate the economic viability of an area. For example, the City of Chicago used approximately \$370,000 to demolish an eyesore, clean up environmental contamination, and provide a clean, secure lot for Scott Peterson Meats, a strong neighborhood company, to use for employee parking. The City's commitment to this project gave Scott Peterson Meats the impetus (and its lenders, the willingness) to invest \$5 million into the project, which, in turn, meant hiring 100 additional employees. Without that critical public funding, local officials believe that private investment in Scott Peterson's project might never have materialized.

In addition, localities can help attract non-profit foundation support for brownfield projects. For example, the Lyndhurst Foundation provided \$10 million for construction of the Tennessee Aquarium and Ross's Landing in Chattanooga, Tennessee. In St. Paul, Minnesota, job training for new businesses at the redeveloped Texaco Tank Farm site was financed in part by several area foundations.

In other cases, localities can help facilitate in-kind services that can offset the need for cash in a project. In Oregon, local governments helped convene a handful of private-sector entities, including law firms, utilities, financing consultants, and others, which they teamed up to facilitate redevelopment of several defunct timber mill sites. In St. Paul, Minnesota, at the former Texaco Tank Farm (now the Crosby Lake Business Park), the municipality encouraged Northern States Power Company to install utility lines at its own expense, and U.S. West phone placed fiber optic lines. These utilities will benefit from the additional load generated from new economic development, which their up-front investment helped make possible.

Following are some of the traditional, local financing tools that are being put to use at brownfields in communities across the nation:

Tax Increment Financing (TIF):

TIF has traditionally been used for a variety of economic revitalization efforts, usually in economically distressed or abandoned areas — today's typical brownfield location. TIF financing is the most common form of local support for brownfield reuse, and a key part of any strategy to address financing gaps.

The TIF process uses the anticipated growth in property taxes generated by a development project to finance public sector investment in it. TIFs are built on the concept that new value will be created — the basic point of most brownfield initiatives — and that the future value can be used to support the financing of the activities needed *now* (such as cleanup or infrastructure improvements) to create that new value. The key to TIF is the local commitment of incremental tax resources for the payment of redevelopment costs.

TIF bonds are issued for the specific purposes of the redevelopment, such as acquiring and preparing the site, cleanup of contamination, upgrading utilities, streets, or parking facilities, and carrying out other necessary site preparation and improvements. This makes TIF an ideal tool for brownfield projects. In addition, TIF programs are easily used with other types of funding, such as grants or loans.

Tax Abatements

Abatements are reductions or forgiveness from tax liabilities. Usually, abatements involve either a basic reduction in tax rates for a specific period of time, typically 5 or 10 years; or they freeze values at some point in time, usually at a pre-improvement stage. Tax abatements are

commonly used to stimulate investments in building improvements or new construction in areas where property taxes or other conditions discourage private investment.

Some abatement programs feature sliding scales, offering full abatements initially, when business cash needs are the greatest. Several states allow their localities to do this, including Texas, Maryland, Ohio, Connecticut, and Idaho. Towns in these states address the issue of remediated brownfield property revaluation by waiting several years before fully assessing the property at the value of its new use. This type of abatement gave the new owner of the 26 acre Vinson Street site in Dallas the incentive and cash flow to pay for the cleanup himself. He later invested \$1.2 million into a new wood pallet recycling operation. Distressed New Jersey communities in designated Environmental Opportunity Zones can take advantage of a tax abatement program that allows new site owners to offset up to 75 percent of their property taxes in a single year by spending that amount on site cleanup. This approach has been used in a couple of communities because of its administrative ease.

Tax abatement programs must be carefully designed to target intended beneficiaries without offering unnecessary subsidies, a feat often difficult to accomplish. Because of this, tax abatement programs have numerous critics. Yet the key advantage of tax abatements is that they give local governments a workable, flexible incentive that helps influence private investment decisions. This can be important in efforts to promote brownfield reuse.

Special Service Areas or Taxing Districts

Cities can use a "special service area" designation as a way to raise cash to finance extra services, improvements, or facilities that will benefit the targeted area. Property owners in a special service area agree that a special real estate levy or special fee will be imposed, with the proceeds used to pay for the defined services or activities. The jurisdiction uses this additional revenue to finance the improvements, either earmarking it directly for the area, or using it to issue bonds to fund the projects.

Many communities have experience with this approach through main street or central business district improvement initiatives. Projects commonly include security, maintenance, storefront rehabilitation, and business attraction or retention efforts. Some communities have used this tool to finance infrastructure upgrades in commercial districts or at industrial parks. Property owners in a defined brownfields area could use this approach to raise funds to cover cleanup costs at blighted sites, especially at small orphan sites that hinder the whole area.

Local Revolving Loan Funds

Several localities have put brownfields revolving loan funds or "RLFs" into place, including Los Angeles, and Rochester and Yonkers in New York. Baltimore operates a highly successful RLF. Initially funded with \$2.5 million in federal empowerment zone funds in 1997, the fund has made 7 loans totaling nearly \$2.4 million. 233 jobs have been created at loan-assisted brownfield projects. Already, \$475,000 has been repaid and is available for new project uses. This includes \$340,000 from the Lancaster Square mixed-use office and residential project in the city's Fells Point neighborhood, which used historic tax credit receipts to retire the debt. The loan paid for cleanup and removal of several underground tanks at the site. New York City and Nassau County have joined with several area banks to establish a \$30 million loan pool for brownfields cleanup and redevelopment, and used EPA brownfields revolving loan fund grants to collateralize the loans made with bank monies.

General Obligation Bonds

Virtually all communities can issue general obligation or "G.O." bonds for any proper public purpose which pertains to its local government and affairs. Economic development practitioners can make a strong case that a bond pool or bond proceeds to support brownfield cleanup and reuse projects will create jobs and enhance the local tax base, which are appropriate public purposes.

Communities traditionally issue G.O. bonds for acquiring land, preparing sites, and making infrastructure improvements — key elements in a brownfield redevelopment strategy. Moreover, the community's ability to repay this bond debt is enhanced by the growth in property tax revenues as more brownfields are brought back to productive uses. Cities ranging from Chicago to Bridgeport, Connecticut have used G.O. bonds to support some aspect of their community brownfield redevelopment strategies. Chicago used bond proceeds to finance the site assessment and cleanup at several sites. Bridgeport helped finance its new minor league baseball stadium with G.O. bonds, and is using its share of gate and concession receipts to help pay them off.

Debt Leveraging

Debt leveraging is a strategy that increases the return on equity when the investment is financed partially with borrowed money. In the case of brownfields, a public or quasi-public entity can serve that purpose by fronting the capital, to make private investments less risky. This strategy has not been used much, but it has been effective in attracting private capital to brownfield sites. For example, the St. Paul Port Authority in Minnesota helps back private loans to companies by purchasing up to 25 percent of the real estate value in a private loan that can be used to cover construction, structural improvements, or expansion of operations. The Port Authority also offers loan guarantees to help ensure companies' access to lines of credit for working capital and equipment. This financing is often difficult for newly locating companies to secure.

Creative Use of Fees or Fines for Brownfield Activities

Many cities routinely collect various fines or inspection fees. Instead of having these resources disappear into the local general fund, they could be devoted to brownfield projects — perhaps used to capitalize brownfield revolving funds or cover site assessment costs at brownfields.

New Bedford, Massachusetts directs local compliance fees and penalties into a fund that supports the City's broader brownfield revitalization strategy. Similarly, federal fines might be tapped as well. For instance, the Sherwin Williams Company provided the City of Chicago \$950,000 as part of a "supplemental environmental project" or "SEP" settlement with the EPA related to violations of environmental laws at a Sherwin Williams plant on the City's south side. The City has used that money to clean up a 103 acre industrial tract in the same area for new industrial and commercial uses.

Further Resources

Financing Strategies for Brownfields Cleanup and Redevelopment, by Charles Bartsch & Barbara Wells, Northeast-Midwest Institute (2003)

Financing Brownfields Redevelopment Projects: A Guide for Developers, U.S. Environmental Protection Agency, at www.smartgrowth.org/library/brownfield_finance.html (1999)

Turning Brownfields into Greenbacks, by Robert A. Simons, Urban Land Institute (1998).

8 Join Forces with Your State

Now more than ever, the success of local brownfields initiatives will depend upon the strength and capacity of state brownfields programs, and the ability of localities to partner with their states. Most states have well established voluntary brownfields cleanup programs that provide a combination of cleanup procedures and economic incentives for brownfields projects. These state programs will continue to grow in importance, because the federal Brownfields Revitalization Act now provides states with lead authority to oversee and approve

brownfields cleanup decisions. Moreover, the EPA is providing substantial funding (\$50 million annually) to expand and improve state brownfields programs.

States are well situated to promote the cross-sector cooperation needed for brownfields success because most states have environmental, economic, planning, transportation, infrastructure, and other departments that can integrate these efforts and direct incentives toward local brownfields projects. States are also key brownfields partners because they can help build and sustain the capacity of local government brownfields programs, and because states are in the best position to connect the issue of brownfields revitalization to the larger issues of smart growth across local boundaries and regions. In most cases, state programs work best when a locality is proactive in partnering with the state and attracting state brownfields resources and assistance. Localities should join forces with their states by:

- ▶ Inviting the state environmental department's brownfields officials to the community, and involving the state brownfields team on your brownfields advisory council. Ask the state for technical assistance and outreach to brownfield stakeholders. Invite a state official to do a year-long work detail in your community.
- ▶ Encouraging state officials to form a cross-sector team of state officials to provide assistance on brownfields, including officials from environmental, economic development, infrastructure, planning, transportation, and other key state programs.
- ▶ Tapping state resources for local brownfields revitalization, including brownfields assessment and cleanup funds, economic development programs, Clean Water State Revolving Funds, tax incentives, and other resources.
- ▶ Learning about the state's brownfield cleanup program, and translating that information to local brownfields site owners, prospective purchasers, and potential investors.

State Voluntary Cleanup Programs

Voluntary cleanup programs are state-level initiatives that have been put into place to encourage the voluntary cleanup of contaminated sites. These response programs address the sites that are not contaminated enough to meet EPA's criteria for placement on the National Priorities Superfund List, or federal criteria for emergency removal of contamination. These sites come under state control, and the VCPs aim to address those sites. Currently, 49 states have VCPs in place.

Voluntary programs differ from other, more regulatory environmental programs because they provide a way for owners or developers of a site to approach the state or commonwealth *voluntarily* to cooperatively work out a process by which the site can be cleaned up appropriately, and made ready for new uses. VCPs aim to make it easier and more predictable to bring contaminated sites back to productive use. They do this by establishing a recognized and predictable process for determining "how clean is clean" at any given site, and what steps need to be taken to achieve this.

Most State VCP programs provide a clear process for brownfields cleanup, clear standards for those cleanups, and mechanisms such as certificates of completion, no further action determinations, and covenants-not-to-sue to protect parties from liability once those cleanups are complete. Common VCP characteristics across states are noted in the box below. Many voluntary programs are targeted specifically to overcome the barriers associated with brownfields activity and to better link together both cleanup and redevelopment activities that may be needed at a site. In addition, because most VCPs allow consideration of future land use in deciding on cleanup plans, cleanup costs might be lower.

State voluntary programs are particularly effective because they allow private parties to initiate cleanups and work cooperatively with state agencies to avoid some of the costs and delays that would likely occur if the sites were subject to Superfund or other enforcement-driven programs. Since voluntary programs involve a cooperative effort with regulators, as opposed to the adversarial nature of enforcement-driven cleanup programs, actual clean-up and state approval of the cleanup process can take less time — sometimes months less. This time savings

Characteristics Of State Voluntary Cleanup Programs

49 programs in place today

- ▶ These are new initiatives — more than half adopted in the past six years
- ▶ A dozen older programs have changed significantly since 2000
- ▶ They seek to provide predictability and finality to the brownfield process

Eligibility

- ▶ Typically, open to any contaminated site except landfills, NPL sites, or sites subject to corrective action under other programs (notably RCRA and LUST)
- ▶ Most permit more types of contaminants than defined in Superfund
- ▶ Most do not let parties responsible for past pollution participate

Oversight

- ▶ Older program approaches — state sign-off on remediation plans, review of cleanup activities
- ▶ Recent approaches — state oversight varies by level of cleanup required, type of site (i.e., orphan or prospective purchaser); many programs use "privatized" approaches with participants using contracted private oversight or "licensed remediation specialists"

Liability relief/assurances provided

- ▶ Most common — covenants not to sue; certificates of completion; no further action letters
- ▶ Also relief/assurances aimed at lenders, prospective purchasers

Financial assistance/incentives, with the objectives to:

- ▶ reduce lender's risk
- ▶ reduce borrower's cost of financing
- ▶ ease the borrower's/site user's financial situation
- ▶ provide direct financing help
- ▶ 13 states offer direct grants or loans

can be very valuable to someone considering taking on a brownfield site, and it can be a critical factor for new users who may be thinking about the site for a redevelopment project.

Liability relief is a critical component of the VCPs. Although most brownfield sites do not rank high among government concerns in terms of risk due to environmental exposure, there is still a significant concern among lenders, prospective site purchasers, and even adjoining property owners that they could be held liable for any number of unpredictable reasons. Therefore, a key part of the new federal Brownfields Revitalization Act is the "finality" that the law conveys to state programs in terms of liability clarification and protection. In other words, a brownfields cleanup conducted under a State VCP program will not be subject to future over-filing or second-guessing by the federal government under the Superfund/CERCLA law, absent extraordinary circumstances not present at most brownfields.

States also play a primary role in regulating underground storage tanks, and ensuring the cleanup of petroleum contaminated brownfields or "USTfields." Currently 33 states and the District of Columbia and the Commonwealth of Puerto Rico have underground storage tank programs that are approved by EPA. Owners and operators in states that have an approved UST program do not have to deal with two sets of statutes and regulations (state and federal) that may be conflicting.

Once their programs are approved, states have the lead role in UST program enforcement. In states without an approved program, EPA will work with state officials in coordinating UST enforcement actions. In addition, every state but Idaho has a comprehensive set of UST leak prevention and detection regulations and a program to implement those regulations, and all states have USTfield cleanup programs.

State Funding & Financing Tools

States have also been in the forefront of creative brownfield financing efforts, and about half the states have put programs in place that have provided critical funding resources to overcome brownfield barriers. As you can see from the following box, these programs fall into four broad categories.

Increasingly, states are stepping up to meet the challenges of brownfields reuse. This includes financing site assessment and cleanup, and financing the more complicated planning and transaction costs that brownfield typically require. States recognize that no specific type of public private partnership — and no single approach — fits the financing needs of all brownfield projects. State approaches include:

- ▶ **Tax credits, abatements, and other tax incentives for brownfield projects.** These programs basically help with a project's cash flow, by allowing revenue to be used for brownfield purposes rather than for tax payments. This can help site reusers get the cash together to deal with some of the site preparation costs that contamination involves. The cash flow cushion from a tax break can also help a project's financial look in the eye of a lender. State and federal tax incentives historically have been used to channel investment capital and promote economic development in areas of need, and brownfield targeting is a natural evolution of this type of program tool. Most brownfields tax incentives are targeted to offset cleanup costs or to provide a buffer against increases in property value that would raise tax assessments before the site preparation costs are paid off.
- ▶ **Economic development programs that can be used to promote brownfield reuse.** Capital gaps remain the biggest barrier to brownfield reuse, and more than half the states have worked to address this issue by putting some sort of financing incentives in place, such as loans or grants. These programs meet several objectives. They are targeted to help finance specific parts of the project, such as site preparation. They can be used to increase the lender's comfort with these projects, by offering guarantees to limit the risk of potential losses. Or, they can ease the borrower's cash flow by plugging certain capital holes or offsetting the extra up-front costs of site cleanup.

State Innovations in Brownfield Financing

Tax Incentives: 22 states, including—

- ▶ Michigan's 100% single business tax abatement
- ▶ Colorado's sliding-scale remediation tax credit
- ▶ New Jersey Environmental Opportunity Zone property tax abatement/rebate to offset cleanup costs
- ▶ Ohio's 10%/\$500,000 assessment and cleanup cost tax credit
- ▶ Illinois's transferable 25% remediation tax credit
- ▶ Minnesota's hazardous waste sub-district TIFs
- ▶ Georgia's brownfields tax incentive allows prospective purchasers to exclude value of cleanup from property value

Targeted Economic Development Assistance: 19 states, including

- ▶ Illinois Redevelopment Loan Program available to private parties
- ▶ Florida's loan guarantees/loan loss reserves
- ▶ Massachusetts Reclamation Payback Fund with guarantees pegged to new property taxes generated
- ▶ Wisconsin earmarking of state CDBG funds for small cities

Direct Brownfields Financing Assistance: 13 states, including—

- ▶ Brownfield/environmental G.O. bond issues in Ohio (\$200 million); Michigan (\$255 million); and New York (\$200 million)
- ▶ Low interest cleanup loans — Delaware, New Jersey Minnesota
- ▶ Wisconsin's diverse package of grant and loan programs

Initiatives Supporting Brownfield Financing: 10 States, including—

- ▶ Michigan's "brownfield redevelopment authorities"
- ▶ Wisconsin's forgiveness of back taxes; and state-level Brownfield Environmental Assessment Program
- ▶ Pennsylvania's "Key Sites" initiative — funds contractors to do site assessments and prepare cleanup plans
- ▶ Massachusetts Access to Capital Program — includes \$15 million to cover a portion of environmental insurance premiums on brownfields

- Direct financing efforts targeted to brownfields projects.** Basically, these are the programs that cut to the chase, and match resources to needs, usually in places where the private sector may fear to tread. Nearly one-third of the states dedicate resources to directly finance brownfield activities that the private sector avoids, such as site assessment and cleanup. Most often, this involves bond issue proceeds or dedicated state revenues for this purpose.
- Innovative programs to support brownfield financing by helping to level the economic playing field between greenfield and brownfield sites.** These types of state activities build on very real and practical opportunities to promote linkages across programs and leverage additional resources more easily. About half a dozen programs do this in various ways, by limiting risk or offsetting critical costs such as those for site assessments. Most of these programs were enacted as a way to attract private investment while limiting public spending. For example, Cal. Code Chapter 1016, passed into law last year, requires California to establish state infrastructure priorities and budgets that "support infill development and redevelopment, cultural and historic resources, environmental and agricultural resources, and efficient development patterns." Likewise, the State of Maryland will not provide state infrastructure funding for roads, sewer and water facilities, schools, or other community infrastructure unless those facilities are constructed in and for designated growth zones. These growth zones typically include a significant number of brownfield properties.

Further Resources:

National Governors Association, Center for Best Practices, at www.nga.org/center

State of the States, Charles Bartsch and Rachel Deane, Northeast-Midwest Institute (2002)

Association of State and Territorial Solid Waste Management Officials, at www.astswmo.org.

9 Partner with Key Federal Agencies

The past decade of American progress in brownfields revitalization was based in large part on the strong partnership that emerged between local communities and the "federal family" of key agencies that targeted resources to the brownfields problem. These key federal agencies continue to be a valuable resource for local communities, and a key to local brownfields success is to take advantage of these federal resources and assistance.

Often, this key to brownfield success requires local communities to be proactive and creative in making federal funding and assistance programs fit the local brownfield needs. This task is becoming tougher as federal resources become scarce and more competitive. To succeed, brownfield communities should connect with the handful of federal agencies most active in the brownfields issue. Many communities have had success by convening regular "Resource Roundtables" events to bring the federal agencies together to focus on local brownfield needs.

Begin with EPA Brownfields Funding

Many successful local programs apply for and eventually obtain brownfields funding from the U.S. EPA. EPA assessment, cleanup, revolving loan fund, and job training grants provide important seed funding to help communities launch their programs and perform initial site assessments at priority brownfields. Equally important, these grants enable communities to develop the local expertise, knowledge, and credibility to leverage the other public and private resources required for successful revitalization.

Three key EPA programs have helped finance various aspects of brownfield reuse. The *assessment grant program* typically provides \$200,000 grants to cities, towns, and other governmental entities to cover site assessment, planning, and program implementation costs. These assessment grants have been the genesis of many local government brownfields programs.

Second, EPA provides *cleanup grants* of \$200,000 per site, and up to \$1 million to help communities capitalize *brownfield cleanup revolving loan funds* to finance site cleanup. Private parties may tap into this loan fund as long as they did not contribute to or cause the contamination.

EPA funding is also available for *brownfields jobs training* (up to \$200,000 over two years), to provide training for residents of communities affected by brownfields to facilitate cleanup of brownfields sites and prepare trainees for future employment in the environmental field.

EPA regional offices will also conduct or fund *targeted brownfields assessments (TBAs)*, for eligible individual brownfield sites. This targeted approach may be preferable for communities that are not seeking to establish an overall brownfields program, but instead to spark revitalization at a targeted site. For example, in Old Town, Maine, the locality worked with EPA's targeted brownfields assessment program to assess (and then clean up) four acres of formerly contaminated property on the banks of the Penobscot River. The site is now a recreational area with a playground and paths for running and biking. The property's building had been used as a warehouse until the city foreclosed on the property for unpaid taxes.

For 17 years the property stood abandoned, as fears regarding suspected contamination and responsibility for expensive cleanup kept potential purchasers at bay. Old Town contacted EPA seeking assistance with the property, and EPA determined the extent of the property's contamination under its TBA program. Following a \$20,000 assessment, the property's abandoned structures were demolished and the contamination cleaned up. While the city funded this extensive cleanup, EPA pursued the former owners for reimbursement of cleanup costs.

Another EPA funding program has great potential but has been little used. Each state has been given capital to operate Clean Water State Revolving Fund programs, which are used to make low or no-interest loans of up to 20 or 30 years for projects that improve water quality — including the cleanup of waterfront brownfields. Project priorities are set by the states, within broad EPA guidelines, and brownfield projects with a water connection can access these state funds, subject to state programs and procedures.

State clean water revolving funds can cover the costs of activities like excavation and disposal of underground storage tanks; capping of wells; excavation, removal, and disposal of contaminated soil or sediments; well abandonment; or Phase I and II assessments, or remedial planning. Each state determines who may use its revolving fund resources; EPA allows communities, municipalities, individuals, citizen groups, and non-profit organizations to be loan recipients. Usually, loans are repaid through sources such as fees paid by developers, recreational fees, dedicated portions of state or local government taxes, stormwater management fees, or wastewater user charges.

To date, only a few states, including Ohio, California, New York, Maryland, Iowa, Wisconsin, and New Mexico, have encouraged brownfield projects to use these resources. For example, the Ohio-based Grant Realty Company used a clean water revolving loan to remediate contaminated groundwater and soils at a 20-acre industrial site in Cleveland and prepare it for commercial use. Repayment is coming from the income stream from a tank cleaning operation, with a personal loan guarantee and second mortgage as collateral.

Connect with the Most Active Federal Agencies

Several federal programs have proven especially helpful to local officials pursuing brownfield cleanup and reuse strategies. Communities should focus on those agencies that are most active in the brownfields arena, including the following:

The *Department of Commerce, Economic Development Administration (EDA)* provides grants to communities to support public works activities. In recent years, EDA has made brownfield redevelopment one of its program funding priorities, often spending nearly 20 percent of its project resources on 50 to 60 brownfield-related projects each year. EDA's public works and infrastructure program supports industrial development activities, while its economic adjustment program can capitalize locally run revolving loan funds to enhance business development activities in distressed areas. Recent brownfield-related projects funded by EDA include:

- ▶ \$923,000 in public works funding to renovate an old factory into a multi-tenant facility in *Uniontown, Pennsylvania*;
- ▶ \$668,000 in public works funding for an incubator expansion in *Cleveland, Ohio*;
- ▶ \$200,000 in economic adjustment assistance to support a Phase II assessment of a mill site reuse project in *Redding, California*; and
- ▶ \$600,000 to capitalize a RLF in *Racine, Wisconsin*, which will focus on new business development on brownfield sites.

U.S. Department of Housing and Urban Development (HUD) programs offer communities significant resources and flexibility. *Community Development Block Grants* are provided to cities of all size. Larger "entitlement communities" receive a direct CDBG allocation from HUD, while smaller communities must access such funds through their county or state. How those funds are spent is a local decision, within broad HUD guidelines that focus on its three national objectives—helping low and moderate income people, addressing conditions of slums and blight, and meeting urgent community needs. Coping with brownfields contamination has been defined as an eligible block grant activity, and specifically put into law in 1997. At the time of publication of this report, HUD had proposed a regulation to clarify and facilitate the use of CDBG funds for brownfields. In recent years, dozens of cities have used CDBG resources directly for brownfield purposes. Cities ranging in size from Chicago to Somerville, Massachusetts have used CDBG to clean up targeted city sites for new industrial uses. Dallas has used block grant funds to pay for cleanup at its McCommas Bluff site, which is targeted for new multi-family housing. Other cities, such as Los Angeles, have used CDBG to capitalize local revolving loan funds for brownfield purposes.

HUD's *Section 108 loan guarantee program* is linked to the block grant program. Section 108 was authorized to help cities finance site clearance, property acquisition, infrastructure, rehabilitation, or related activities too large for single-year block grant funding. This can include removal of toxic contaminants as part of these site preparation activities. More and more cities are targeting Section 108 to brownfield projects. For example, Denver is using 108 for short-term construction loans on downtown projects, with the developers repaying the notes upon sale of the properties. Mid-sized cities such as Yonkers, New York have used Section 108 proceeds to create a local brownfield revolving loan fund. San Luis Obispo, California is using \$1.5 million in Section 108 to build senior housing.

HUD has traditionally provided \$25 million annually for its *Brownfield Economic Development Initiative (BEDI)*. These grant funds are awarded competitively. Recent BEDI winners include:

- ▶ *Buffalo*, which is using \$240,000 in BEDI funds and a \$3 million Section 108 loan guarantee for site preparation and remediation at the Union Ship Canal commercial and office project;
- ▶ *Provo, Utah*, which is using a \$1 million BEDI grant and \$3.5 million in Section 108 funding to complete environmental site work and demolition at a former steel plant, which will be converted into a multipurpose facility housing office and retail space, a warehousing and distribution operation, and a minor league baseball stadium; and
- ▶ *Phillipsburg, New Jersey*, which is using a \$500,000 BEDI grant and \$2.5 million Section 108 loan to acquire and redevelop 100 acres of the 385 acre former Ingersoll Rand site into a modern industrial park, doing soil remediation as part of site preparation that will include road, rail, and utility upgrading.

If a community can tie its brownfields project to water or water quality, it may be able to use the programs of the *U.S. Army Corps of Engineers*. The Corps helps civilian communities

through a variety of planning, design, and construction, program and project management, contracting, real estate, and operation and maintenance activities. The Corps has provided brownfields assistance to local communities including site planning, flood control and navigation, emergency response, remediation of hazardous waste sites, environmental restoration, stewardship and compliance, waterfront recreational projects, infrastructure renewal, and water resource development. The Army Corps primarily assists community brownfields and other livability efforts through its Civil Works authorities. The majority of Civil Works authorities require special Congressional authorization and appropriations. Projects that cost less than \$5 million in federal share can be supported without congressional authorization under the "Continuing Authorities Program" (CAP).

CAP authorities that can support local brownfields initiatives include Section 1135, Project Modifications for Improvement of the Environment; Section 206, Aquatic Ecosystem Restoration; Section 204, Beneficial Use of Dredged Material (for Ecosystem Restoration); and Section 312, Environmental Dredging (contaminated sediments). Additional programmatic authorities empower broad planning assistance, including the Section 729 Watershed and River Basin Assessments program, and the Section 22 Planning Assistance to States program, among others. Many communities support the concept of optimizing and expanding these limited Corps authorities so that they can better meet the urban waterfront and watershed revitalization goals of local governments. Examples of successful brownfield partnerships between the Corps and local communities include the following.

- The Corps of Engineers has partnered with the City of Des Moines, Iowa to build a new riverwalk, develop constructed wetlands, and address flood control needs along the Des Moines and Raccoon Rivers in downtown Des Moines. This project includes activities on the Riverpoint West and Agri-mergent Technology Park areas, where brownfields will be converted to mixed-use and industrial development projects on these urban rivers, with designs that incorporate open space, recreational space, and low impact development techniques.
- The Corps of Engineers has partnered with Indianapolis, Indiana on the "Central Indianapolis Waterfront Project." The goal of the project was to reverse the environmental and economic decline of the White River and reclaim this valuable asset for the citizens of Indianapolis and Indiana. After the great flood of 1913, levees and flood walls were built to protect the city from ravaging floods. However, these flood control structures became barriers, cutting the city off from its river. The new design has created public spaces and continuous walkways along the water's edge, while providing equal flood protection.

Some communities have made creative use of *Department of Transportation* funds for brownfield purposes. As a growing number of case studies show, transportation projects can be connected with brownfield projects in three ways:

- the brownfield site itself may be a transportation facility in need of upgrading — the most common include roads and rail yards;
- transportation system improvements are needed to make the brownfield site more marketable — typically by expanding access for vehicles, freight, or passengers; or
- part of the transportation solution is also part of the environmental solution, where roads, parking lots, and other transportation structures can be used as caps to limit exposure.

In Portland, Oregon, transportation planners drew the alignment for a new road through a largely abandoned industrial area to incorporate the worst contaminated areas of the tract, so that they could use highway money to clean up the sites as part of basic roadway preparation. This made adjoining sites, which were less contaminated, more valuable because of access to the new four-lane road.

Federal Financial Assistance Programs— What Applies to Brownfield Activities?

Communities have used the following federal programs to help finance various aspects of brownfield reuse from basic site preparation, site assessment and cleanup, and construction. Many of these are intended for use in conjunction with private funding sources.

Loans

- ▶ EDA's Title IX (capital for local revolving loan funds)
- ▶ HUD funds for locally determined CDBG loans and "floats"
- ▶ EPA capitalized brownfield revolving loan funds
- ▶ SBA's micro loans
- ▶ SBA's Section 504 development company debentures
- ▶ EPA capitalized clean water revolving loan funds
- ▶ DOT's transportation and community system preservation (TCSP) grants
- ▶ Army Corps of Engineers (cost-shared services)

Equity capital

- ▶ SBA's Small Business Investment Companies
- ▶ Federal Home Loan Bank equity investments

Tax incentives and tax-exempt financing

- ▶ Expensing of brownfield cleanup costs (through 12/31/03)
- ▶ Historic rehabilitation tax credits
- ▶ Low-income housing tax credits
- ▶ Industrial development bonds
- ▶ New Markets Tax Credits

Loan guarantees

- ▶ HUD's Section 108 loan guarantees
- ▶ SBA's Section 7(a) and Low-Doc programs

Grants

- ▶ HUD's Brownfield Economic Development Initiative (BEDI)
- ▶ HUD's Community Development Block Grants
- ▶ EPA assessment, cleanup, revolving loan fund, and job training grants
- ▶ EDA public works and economic adjustment
- ▶ DOT (various system construction and rehabilitation programs)

Tax-advantaged zones

- ▶ HUD/USDA Empowerment Zones (various incentives)
- ▶ HUD/USDA Enterprise Communities (various incentives)

Emeryville, California has connected various pots of transportation funding to their brownfield reuse strategies. For example, the city successfully marketed an old Chevron tank facility to Amtrak for its new Bay Area main station. The City is promoting redevelopment of adjoining brownfields into office and residential uses, using roadways as contamination caps and part of the ongoing institutional control strategies to ease their reuse. Emeryville also used federal transportation dollars to construct a pedestrian network linking all these sites together.

Three federal tax incentives overseen by the *U.S. Treasury* can assist brownfields projects. One is *low-income housing tax credits*, which can be used to support brownfield projects, and take advantage of the growing interest in reusing brownfield properties for residential purposes. Each state gets an allocation of federal low-income housing tax credits to use to attract financing to these projects, and they can play an important role in attracting capital for housing on brownfield sites. Milwaukee, Portland, Oregon and a growing number of other cities are working towards making the brownfields/housing connection with these tax credits.

The federal *brownfield tax expensing incentive* is directly targeted to private owners of contaminated sites. Taxpayers can deduct environmental cleanup costs in the year they incur them, rather than having to capitalize them over time. Eligible costs include site assessment and cleanup costs, monitoring costs, operations and maintenance costs, and state voluntary cleanup program oversight fees. The incentive was first passed by Congress in 1997, as part of the Taxpayer Relief Act, but got little use because geographic and poverty targeting criteria made it difficult to understand and use. But on December 21, 2000, Congress eliminated those targeting criteria, and now essentially any brownfield site owner can take advantage of the incentive. While this incentive expired on December 31, 2003, Congress is expected (as of September 2004) to extend it again as part of a broader pending tax initiative.

The *New Markets Tax Credit Program* is designed to infuse investment capital into low-income communities to support brownfields revitalization and other community development activities. As mentioned previously, an Ohio developer is planning to use this program to leverage financing for the redevelopment of a battery manufacturing facility in Cleveland.

In terms of rural development resources, the *U.S. Department of Agriculture* offers a number of programs that can be used for brownfield activities. The real challenge is to make project needs and financing gaps fit the basic eligibility criteria of these programs, and show why they are applicable. Rural development programs to consider include:

- ▶ *Community facility loans and grants* — can support development activities that include industrial park sites or access ways.
- ▶ *Business and industry loans* — are available at low interest rates to public or private organizations to improve the "economic and environmental climate in rural communities."
- ▶ *Rural development grants* — provide operating capital and finance to emerging private business and industry, including for "conversion, enlargement, or modernization of buildings, plant, and equipment". These grants could potentially include activities such as taking an old factory and turning it into a small business incubator, or a mixed-use business park.

Convene a Resource Roundtable

As discussed above, success in obtaining federal agency resources often takes a pro-active approach by a local community that fits the "square peg" of federal programs into the "round hole" of local brownfields projects. One winning approach is to convene regular "Resource Roundtables" that bring together key federal agency officials, and other potential supporters, into workshops that provide overviews of brownfields needs and projects, and ask these federal officials to discuss how their resources could fit into the project. Most of the Brownfield Showcase Communities used such roundtables to great advantage. For example, the smaller City of Glen Cove, New York, was able to raise approximately \$40 million for the revitalization of its contaminated waterfront, using annual resources roundtables as the means to attract commitments and contributions.

Further Resources:

Guide to Federal Brownfields Programs, Charles Bartsch & Barbara Wells, Northeast-Midwest Institute (2004);

EPA Brownfields Federal Partnership Action Agenda, at www.epa.gov/brownfields/partnr.htm (November 2002);

EPA Brownfields Office "Federal Partnerships and Resources", at www.epa.gov/brownfields/mmatters.htm#fedprtnr

Brownfields Blueprints: A Study of the Showcase Communities Initiative, International City/County Management Association & the Northeast-Midwest Institute (2001)

10 Nothing Succeeds Like Success

To succeed in an overall brownfields vision, a local community must make small steps toward progress, to give confidence to the community and brownfields stakeholders.

This key is about taking success one step at a time—achieving progress quickly, gaining the confidence of the community, and building from there. Often times, the community, investors, and even public officials have lost faith that these sites can be put back to use. We all know what naysayers and skeptics can do. This makes it essential to achieve small successes. The demolition of an old building, or the cleanup of an abandoned gas station into a small community pocket park, can be successes that are as important as the big brownfield victories.

Local governments should promote, celebrate, and publicize successes, even "little" ones, by getting the word out, building interest, and keeping it high by establishing good relationships with the news media, community-based publications, and other information. Localities should also use groundbreaking, ribbon-cutting and other ceremonies to bring the community together with local, state and national officials to celebrate the progress made on brownfields projects. This enhances the ability of local brownfield programs to move from one project to the next, and increases opportunities to raise further funding for future projects.

The success story of East Palo Alto is one of the most inspiring around. This was a community born in strife, plagued by poverty, crime, lack of infrastructure and community services—and blighted by years of industrial and agricultural pollution. But the people and local leaders of East Palo Alto were dedicated to their vision of revitalization, and they started with the Gateway 101 Revitalization project as a first step. Using town meetings, charrettes, persistence, and dedicated advocacy to potential state and local funders, the citizens in the community eventually got on board with the brownfields vision.

Today, Gateway has progressed beyond the community's expectations. The project has created a mixed-use housing and retail power center, with 450 new housing units, major new stores, 500 new jobs, \$1.6 million more in tax base annually, and an eight-fold increase in property values. Gateway has helped lead to the opening of the first full service bank in this community of 30,000 people, the construction of a new luxury Four Seasons hotel, and a new IKEA store, and a five-fold overall increase in the City's annual sales tax revenue. East Palo Alto's first brownfields project has been a gateway to overall success, and the community is now poised to turn around the challenge of the 130 acre Ravenswood industrial area. Success will continue to build on success in East Palo Alto, and it can in your community too.

Further Resources:

Measuring Success in Brownfield Redevelopment Programs, by Kathryn Whiteman and Thomas Groenveld, International City/County Management Association (2002)

Brownfields Resources

Research Organizations and Professional Associations

Air & Waste Management Association
Pittsburgh, PA
(412) 232-3444
<http://www.awma.org/>

American Farmland Trust (AFT)
Washington, DC
(202) 331-7300
<http://www.farmland.org/>

American Planning Association (APA)
Washington, DC
(202) 872-0611
<http://www.planning.org/>

American Society of Landscape Architects
Washington, DC
(202) 898-2444
<http://www.asla.org/>

American Society for Testing and Materials (ASTM)
West Conshohocken, PA
(610) 832-9585
<http://www.astm.org/>

Association of State and Territorial Solid Waste Management Officials (ASTSWMO)
Washington, DC
(202) 624-5828
<http://www.astswmo.org/>

Brownfields Center at Carnegie Mellon University
Pittsburgh, PA
(412) 268-7121
<http://www.ce.cmu.edu/Brownfields/>

Center for Brownfields Initiatives at the University of New Orleans
New Orleans, LA
(504) 280-7413
www.brownfields.com

Brownfields/Smart Growth Research Group at the University of Louisville
Louisville, KY
(502) 852-8152
<http://cepm.louisville.edu/organization/BSGRG/bsgrg.htm>

California Center for Land Recycling (CCLR)
San Francisco, CA
(415) 398-1080
<http://www.cclr.org/>

Center for Public Environmental Oversight (CPEO)
Washington, DC
(202) 452-8039
<http://www.cpeo.org>

Council of Great Lakes Governors
Chicago, IL
(312) 407-0177
<http://www.cglg.org/>

Colorado Brownfields Foundation
Littleton, CO
(303) 991-0074
<http://www.coloradobrownfieldsfoundation.org>

The Environmental Council of the States (ECOS)
Washington, DC
(202) 624-3660
www.sso.org/ecos/

Environmental Defense
New York, NY
(212) 505-2100
<http://www.environmentaldefense.org/>

Environmental Law Institute (ELI)
Washington, DC 20036
phone: (202) 939-3800
<http://www.eli.org/>

Electric Power Research Institute (EPRI)
Palo Alto, CA
<http://www.epri.com/>

Engineers' Society of Western Pennsylvania (ESWP)

Pittsburgh, PA
 (412) 261-0710
<http://www.eswp.com/>

Greenlining Institute

Berkeley, CA
 (510) 926-4000
<http://www.greenlining.org/>

International Council of Shopping Centers

New York, NY
 (646) 728-3800
<http://www.icsc.org/>

International City/County Management Association (ICMA)

Washington, DC
 (202) 289-4262
<http://www.icma.org/>

International Economic Development Council (IEDC), formerly the Council for Urban Economic Development (CUED)

Washington, DC
 (202) 223-7800
http://www.iedconline.org/aboutus_top.html

National Association of Counties (NaCO)

Washington, DC
 (202) 393-6226
<http://www.naco.org/>

National Association of County and City Health Officials

Washington, DC
 (202) 783-5550
<http://www.naccho.org/>

National Association of Development Organizations (NADO)

Washington, DC 20001
 (202) 624-7806
<http://www.nado.org/>

National Association of Industrial & Office Properties (NAIOP)

Herndon, VA
 (703) 904-7100
<http://www.naiop.org/>

National Association of Installation Developers (NAID)

Washington, DC
 (202) 822-5256
<http://www.naid.org/>

National Brownfield Association (NBA)

Chicago, IL
 (773) 714-0407
<http://www.brownfieldassociation.org>

National Center for Neighborhood & Brownfields Redevelopment at Rutgers University

New Brunswick, NJ
 Fax: (732) 932-0934
<http://www.policy.rutgers.edu/brownfields/>

National Governors' Association Center for Best Practices

Washington, DC
 (202) 624-5300
<http://www.nga.org/center/>

National Trust for Historic Preservation

Washington, DC
 (202) 588-6000
<http://www.nationaltrust.org/>

Pratt Institute Center for Community & Environmental Development (PICCED)

New York, NY
 (718) 636-3486
<http://www.picced.org/>

The Trust for Public Land

San Francisco, CA
 (415) 495-4014
<http://www.tpl.org/>

The United States Conference of Mayors

Washington, DC
 (202) 293-7330
<http://www.usmayors.org/>

Urban Land Institute (ULI)

Washington, DC
 (202) 624-7000
<http://www.uli.org/>

State Environmental Agencies**Alabama Department of Environmental Management**

Montgomery, AL
 (334) 271-7700
<http://www.adem.state.al.us/>

Alaska Department of Environmental Conservation, Contaminated Sites Remediation Program

Fairbanks, AK
 (907) 451-2143
<http://www.state.ak.us/dec/spar/csp/index.htm>

Arizona Department of Environmental Quality, Brownfields Assistance Program

Phoenix, AZ
 (800) 234-5677
<http://www.azdeq.gov/enviro/waste/cleanup/brownfields.html>

Arkansas Department of Environmental Quality, Brownfields Program
Little Rock, AR
(501) 682-0867
http://www.adeq.state.ar.us/hazwaste/branch_inactive_sites/brownfields.htm

California Department of Toxic Substance Control, CLEAN Brownfields Loan Program
Sacramento, CA
(800) 72TOXIC
<http://www.dtsc.ca.gov/index.html>

California Department of Public Health and Environment, Hazardous Materials and Waste Management Division
Denver, CO
(888) 569-1831
<http://www.cdph.state.co.us/hm/hmhom.asp>

Connecticut Department of Environmental Protection
Hartford, CT
(860) 424-3000
<http://dep.state.ct.us/index.htm>

Delaware Department of Natural Resources and Environmental Control, Brownfields Program
Dover, DE
(302) 739-4764
<http://www.dnrec.state.de.us/dnrec2000/Divisions/AWM/sirb/brownfield.asp>

Florida Department of Environmental Protection, Brownfields Program
Tallahassee, FL
(850) 245-2118
<http://www.dep.state.fl.us/waste/categories/brownfields/default.htm>

Georgia Department of Natural Resources
Atlanta, GA
(888) 373.5947
<http://www.dnr.state.ga.us/dnr/environ/>

Hawaii Department of Health, Voluntary Response Program
Honolulu, HI
(808) 586-4400
<http://www.hawaii.gov/doh/eh/heer/vrp.html>

Idaho Department of Environmental Quality, Waste Management and Remediation
Boise, ID
(208) 373-0495
<http://www.deq.state.id.us/waste/waste1.htm>

Illinois Environmental Protection Agency, Brownfields Assistance Program
Springfield, IL
(217) 524-1321
<http://www.epa.state.il.us/land/brownfields/index.html>

Indiana Department of Environmental Management, Brownfields Program
Indianapolis, IN
(317)234-0235
<http://www.in.gov/idem/land/brownfields/>

Iowa Department of Natural Resources, Brownfields Information
Des Moines, IA
(515) 281-8900
<http://www.iowadnr.com/land/consites/brownfields/conbrownfields.html>

Kansas Department of Health and Environment, Remedial Section
Topeka, KS
(785) 296-1675
<http://www.kdhe.state.ks.us/remedial/index.html>

Kentucky Natural Resources and Environmental Protection Cabinet, Voluntary Environmental Remediation Program
Frankfort, KY
(502) 564-6716
<http://www.waste.ky.gov/>

Louisiana Department of Environmental Quality, Voluntary Remediation/Brownfields Program
Baton Rouge, LA
(225) 219-3192
<http://www.deq.state.la.us/remediation/ias/vcp.htm>

Maine Department of Environmental Protection, Voluntary Response Action/ Brownfields Program
Augusta, ME
(207) 287-4854
<http://www.state.me.us/dep/rwm/rem/brown.htm>

Maryland Department of the Environment, Brownfields Voluntary Cleanup Program
Baltimore, MD
(410) 537-3000
http://www.mde.state.md.us/Programs/LandPrograms/ERRP_Brownfields/index.asp

Massachusetts Department of Environmental Protection, Brownfields Program
Boston, MA
(617) 556-1138
<http://www.mass.gov/dep/bwsc/brownfld.htm>

Michigan Department of Environmental Quality, Brownfields Program
Lansing, MI
(517) 373-9837
http://www.michigan.gov/deq/1,1607,7-135-3311_4110_4220---CI,00.html

Minnesota Pollution Control Agency
St. Paul, MN
(651) 296-6300
<http://www.pca.state.mn.us/cleanup/brownfields.html>

Mississippi Department of Environmental Quality, Brownfields Program

Jackson, MS
 (601) 961-5171
http://www.deq.state.ms.us/MDEQ.nsf/page/Main_Home?OpenDocument

Missouri Department of Natural Resources, Air and Land Division

Jefferson City, MO
 (800) 361-4827
<http://www.dnr.state.mo.us/env/remediation.htm>

Montana Department of Environmental Quality, Remediation Programs

Helena, MT
 (406) 841-5000
<http://www.deq.state.mt.us/rem/Index.asp>

Nebraska Department of Environmental Quality

Lincoln, NE
 (402) 471-2186
<http://www.deq.state.ne.us/>

Nevada Division of Environmental Protection, Brownfield Program

Carson City, NV
 (775) 687-4670
<http://ndep.nv.gov/>

New Hampshire Department of Environmental Services, Site Remediation Programs

Concord, NH
 (603) 271-3644
http://www.des.state.nh.us/orcb_hwrbr.htm

New Jersey Department of Environmental Protection, Site Remediation/Brownfields Program

Trenton, NJ
 (609) 292-1251
<http://www.state.nj.us/dep/srp/brownfields/>

New Mexico Environmental Department

Santa Fe, NM
 (505) 827-2855
http://www.nmenv.state.nm.us/Common/NMED_Contacts.html

New York Department of Environmental Conservation, Remediation Division

Albany, NY
 (518) 402-9401
<http://www.dec.state.ny.us/website/der/>

North Carolina Department of the Environment and Natural Resources, Brownfields Program

Raleigh, NC
 (919) 733-4996
<http://www.ncbrownfields.org/welcome.htm>

North Dakota Department of Health, Division of Waste Management

Bismark, ND
 (701) 328-5166
<http://www.health.state.nd.us/ndhd/envirion/wm/index.htm>

Ohio EPA Division of Emergency and Remedial Response

Columbus, OH
 (614) 644-2924
<http://www.epa.state.oh.us/derr/>

Oklahoma Department of Environmental Quality

Oklahoma City, OK
 (405) 702-5100
<http://www.deq.state.ok.us/lpdnew/brownfindex.html>

Oregon Department of Environmental Quality, Brownfields Program

Portland, OR
 (503) 229-5585
<http://www.deq.state.or.us/wmc/cleanup/brn0.htm>

Pennsylvania Department of Environmental Protection, Land Recycling Program

Harrisburg, PA
<http://www.dep.state.pa.us/dep/deputate/airwaste/wm/landrecy/default.htm>

Rhode Island Department of Environmental Management, Office of Waste Management

Providence, RI
 (401) 222-2797
<http://www.state.ri.us/dem/programs/benviron/waste/index.htm>

South Carolina Department of Health and Environmental Control, Division of Site Assessment and Remediation

Columbia, SC
 (803) 896-4000
<http://www.scdhec.net/lwm/>

South Dakota Department of Environment and Natural Resources, Waste Management Program

Pierre, SD
 (605) 773-3153
<http://www.state.sd.us/denr/des/wastemgn/wasteprg.htm>

Tennessee Department of Environment and Conservation, Voluntary Cleanup, Oversight and Assistance Program

Nashville, TN
 (888) 891-TDEC
<http://www.state.tn.us/environment/>

**Texas Natural Resource Conservation Commission,
Brownfields Redevelopment Initiative**
Austin, TX
<http://www.tnrcc.state.tx.us/about.html>

Utah Department of Environmental Quality
Salt Lake City, UT
<http://www.eq.state.ut.us/>

**Vermont Agency of Natural Resources,
Waste Management Division**
Waterbury, VT
(802) 241-3888
<http://www.anr.state.vt.us/dec/wmd.htm>

**Virginia Department of Environmental Quality,
Brownfields/Land Renewal Program**
Richmond, VA
(804) 698-4000
<http://www.deq.state.va.us/brownfieldweb/homepage.html>

**Washington Department of Ecology, Site
Cleanup, Sediments, and Underground
Storage Tank Information**
Olympia, WA
<http://www.ecy.wa.gov/programs/tcp/cleanup.html>

**West Virginia Department of Environmental
Protection, Office of Environmental Remediation**
Charleston, WV
(304) 558-4253
<http://www.dep.state.wv.us/>

**Wisconsin Department of Natural Resources,
Brownfields Program**
<http://www.dnr.state.wi.us/org/aw/rr/>

Wyoming Department of Environmental Quality
(307) 777-7937
<http://www.deq.state.wy.us>

Federal Agencies

**U.S. Environmental Protection Agency:
Brownfields**
<http://www.epa.gov/brownfields>

Appalachian Regional Commission
<http://www.arc.gov/index.do?nodeId=1765>

U.S. Department of Agriculture
Forest Service
<http://www.fs.fed.us>
Rural Development
<http://www.rurdev.usda.gov/>

U.S. Department of Commerce
Economic Development Administration
<http://www.doc.gov/eda>

U. S. Department of Commerce
National Oceanic and Atmospheric Administration
<http://www.noaa.gov>

U.S. Department of Defense:
Army Corps of Engineers
<http://www.lrd.usace.army.mil/gl/brown.htm>

U. S. Department of Defense:
Office of Economic Adjustment
<http://emissary.acq.osd.mil/oea/home.nsf>

U.S. Department of Energy
<http://www.energy.gov>

**U.S. Department of Health and Human
Services: Agency for Toxic Substances and
Disease Registry**
<http://www.atsdr.cdc.gov/>

**U. S. Department of Health and Human
Services: National Institute of
Environmental Health Sciences**
<http://www.niehs.nih.gov/wetp/program/brownfields.htm>

**U.S. Department of Housing and Urban
Development: Brownfields**
<http://www.hud.gov/library/bookshelf07/bfields.cfml>

U.S. Department of Interior
<http://www.doi.gov/oepe>

**U.S. Department of Interior:
National Park Service**
<http://www.nps.gov>

**U.S. Department of Interior:
Office of Surface Mining**
<http://www.osmre.gov>

U.S. Department of Justice: Weed and Seed
<http://www.ojp.usdoj.gov/eows>

U.S. Department of Labor
<http://www.dol.gov>

U.S. Department of Transportation:
Federal Transit Administration
<http://www.fta.dot.gov>

U.S. Department of Transportation:
Federal Highway Administration
<http://www.fhwa.dot.gov>

U.S. Department of Treasury:
Community Development Financial Institutions Fund
<http://www.cdfifund.gov/>

Federal Deposit Insurance Corporation

<http://www.fdic.gov/>

Federal Housing Finance Board

<http://www.fhfb.gov>

General Services Administration

<http://www.gsa.gov>

Small Business Administration

<http://www.sbaonline.sba.gov>

“Congress enacted the Brownfields Revitalization Act to support innovative local, state, and private sector initiatives to clean up and redevelop brownfields. This Unlocking Brownfields report demonstrates the tremendous opportunities for community progress and economic growth at America’s brownfields.”

—U.S. Senator James Inhofe, Chairman, Senate Environment and Public Works Committee

“Brownfields renewal is a key strategy for growing greener, and the Unlocking Brownfields report highlights ways to succeed in that endeavor.”

—Governor Ed Rendell, State of Pennsylvania

“Communities like St. Louis are striving to enhance local quality of life and economic progress through brownfields revitalization. This Unlocking Brownfields report shows how the public and private sectors can build a brownfields partnership from the ground up.”

—Mayor Francis Slay, City of St. Louis, Missouri

“Brownfields revitalization is about people willing to make positive change in their communities. This Unlocking Brownfields report showcases remarkable people and wonderful communities who are turning their brownfields back into productive places again.”

*—Linda Garczynski, Director, U.S. Environmental Protection Agency
Office of Brownfields Cleanup and Redevelopment*

“Brownfield redevelopments have proven to be attractive business opportunities that also provide for economic revitalization and environmental preservation. As you’ll see in this Unlocking Brownfields report, businesses are discovering that it makes sense to form strong partnerships with local communities to pursue smart growth initiatives.”

—Kevin P. Fitzpatrick, President, AIG Global Real Estate Investment Corp.



Brownfield
Communities Network

